PHILIPPINE
ISLANDS

HEALTH
SERVICE
MONTHLY
BULLETIN

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III JANUARY, 1923 No. 1

I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR

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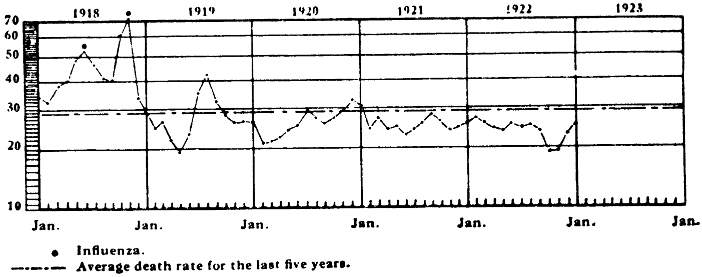
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III JANUARY, 1923 No. 1

SANITARY PROGRESS IN THE PHILIPPINE ISLANDS DURING 1922

THE YEAR IN BRIEF

Substantial decrements in the general mortality and in infant mortality rates constituted the salient gains of the year. The work in leprosy investigation has been expanded by more liberal appropriations and the detailing of expert technical personnel at Culion and San Lazaro Hospital; the vaccination campaigns for the eradication of smallpox, cholera, and typhoid-fever have been conducted and continued in an intensive and systematic manner; and with the coöperation of the Rockefeller Foundation, malaria and hookworm surveys were effected resulting in findings of decided practical import to public health conservation. The greatest achievements of the year consisted by far, however, in the suppression of epidemics and in a general improvement of the morale health officials as attested to by greater individual activity and efficiency and a higher conception and better comprehension of their duties and responsibilities.

VITAL STATISTICS

Territorial division	Population		Nationality			
			1922		1921	
	1922	1921	Births	Birth rate	Births	Birth rate
City of Manila	299,754	295,626	13,093	43.68	12,261	33.02
Provinces [a]	9,397,360	8,939,464	246,939	26,28	334,890	37.46
Mindanao and Sulu	[b] 632,548	[b] 618,364	11,813	18.67	17,281	27.90
Totals	10,329,662	9,853,454	271,845	29.56	364,432	32.79

[a] Figures from provinces for 1922 not complete. [b] Non-Christian population—about 650,000—not included.

VITAL STATISTICS—continued

Territorial division	General mortality				Infant mortality			
	1922		1921		1922		1921	
	Deaths	Death rate	Deaths	Death rate	Deaths under 1 year	Infant mortality rate	Deaths under 1 year	Infant mortality rate
City of Manila	7,221	24.09	7,537	26.42	2,311	194.24	2,871	205.52
Provinces [a]	137,085	14.59	186,627	21.50	38,564	156.17	55,000	183.88
Mindanao and Sulu	6,333	10.01	9,174	14.80	1,704	144.24	2,455	142.00
Totals	150,639	16.23	203,338	20.90	42,579	164.88	60,326	170.46

[a] Figures from provinces for 1922 not complete.

Compared with the figures for 1921, notable reductions in the general mortality and infant mortality rates have been accomplished in 1922, from 20.90 to 16.23 to every 1,000 of population in the case of the general mortality, and from 170.46 to 164.88 for each 1,000 births in the case of infant mortality. The reductions in this regard have resulted, beyond the peradventure of doubt, from: (*a*) suppression of epidemics (see epidemiology); (*b*) the slow but certain control of preventable diseases through effective health measures; and (*c*) the improvement of individual health through health education and publicity and the consequent awakening of the sanitary conscience of the people at large.

EPIDEMIOLOGY

No epidemics of dangerous communicable diseases occurred during the year. Sporadic cases of cholera, dysentery, smallpox, and typhoid fever were reported, however, in the three territorial divisions of this Service, as follows:

Divisions	Cholera		Dysentery		Smallpox		Typhoid fever	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
City of Manila	76	25	250	124	0	0	1,295	328
Provinces	91	65	1,1745	6,898	126	12	2,451	1,709
Mindanao–Sulu	....	....	....	307	....	6	....	40
Totals	....	90	....	7,329	....	18	....	2,077

As compared with the figures for the last five years, the incidence and mortality during 1922 from the foregoing diseases certainly show a large failing off. In the provinces, the reduction in the mortality curve was quite remarkable, especially in those of cholera and smallpox. The decrement can best be realized by a perusal of the tables given below:

City of Manila

Years	Cholera	Dysentery	Smallpox	Typhoid fever
1917	8	312	2	216
1918	123	759	989	224
1919	399	443	55	216
1920	3	294	5	290
1921	23	60	0	239
1922	25	124	0	328

Provinces including Mindanao-Sulu

Years	Cholera	Dysentery	Smallpox	Typhoid fever
1917	8,715	8,998	434	3,334
1918	5,787	10,601	15,158	4,171
1919	17,805	19,311	49,916	3,594
1920	119	8,746	7,100	2,491
1921	30	9,217	719	2,136
1922	65	7,205	18	1,749

SANITATION IN THE CITY OF MANILA

1. VITAL STATISTICS

(*a*) *Population*, 1922	299,754
Population, 1921	295,626
Net increment of population	4,128
(*b*) *Births*, 1922	13,093
Birth rate per 1,000 inhabitants	31.82
(*c*) *Deaths*, 1921	7,537
Deaths, 1922	7,221
Net decrement	316
Death rate per 1,000 inhabitants, 1921	25.49
Death rate per 1,000 inhabitants, 1922	24.09
Net decrement	1.40
(*d*) Infant mortality:	
Deaths of infants under 1 year, 1921	2,871
Deaths of infants under 1 year, 1922	2,311
Net decrement	560
Infant mortality rate per 1,000 births, 1921	205.52
Infant mortality rate per 1,000 births, 1922	194.24
Net decrement	11.28

2. EPIDEMIOLOGY

	Cases	Deaths
(*a*) Cholera, 1922	76	25
Cholera, 1921	59	23

Most of the cases occurred in January (63 cases, 25 deaths). The rest of the cases occurred between February and August.

The infection during 1922 was a continuation of the infection of the previous year.

The usual routinary measures were put to use; viz., hospitalization, disinfection, detection, and isolation of carriers. In addition and as a supplementary measure, 303,612 anti-cholera vaccinations were given to 213,004 persons for prophylactic purposes. The last two measures, vaccination and isolation of carriers, proved to be the most effective means for controlling cholera infection.

	Cases	Deaths
(*b*) Dysentery, 1922	356	135
Dysentery, 1921	250	124

The incidence of this disease has steadily decreased since 1917.

	Cases	Deaths
(*c*) Smallpox, 1921	0	0
Smallpox, 1922	0	0

The incidence of this disease has been on the increase since 1918. For the purpose of scientific investigation and to the end that proper remedial measures may be instituted, a typhoid investigation committee has been appointed, which, after three months' work, submitted recommendation along the following lines:

(1) Improvements in existing services for waste and refuse disposal, and water-supply systems.

(2) Strict sanitary supervision of food factories and establishments and of the personnel thereof.

(3) Isolation, follow-up, and control of carriers.

(4) Prompt notification and improvement of diagnostic methods.

(5) Complete individual vaccinations.

In addition to the foregoing, hospital isolation of cases and carriers, disinfection and detection of carriers were instituted as usual.

A total of 243,768 vaccinations were performed on 138,432 persons.

A seasonal increase of the incidence has been noted, the same occurring in the month of March. The lowest incidence was observed in December.

With the measures above in continuous operation and a large portion of the population (42.84 per cent) duly immunized, the prospects for 1923 are promising.

	Cases	Deaths
(*d*) Diphtheria, 1921	56	20
Diphtheria, 1922	42	17

As a result of the measures adopted for its control, the incidence of diphtheria has gradually decreased since 1917. The average incidence for the last five years was 62 cases. The decrement as borne out by facts amounted to 32.25 per cent.

(*e*) *Encephalitis lethargica.*—The existence of this disease in the City of Manila has been confirmed. A total of 39 cases with eight deaths occurred during December. Myoclonic types seemed more frequent than the lethargic cases. Proper measures are being taken to prevent the spread.

(*f*) *Rabies.*—Among 153 persons reported as having been bitten by supposedly rabid dogs, 152 of whom were subjected to Pasture treatment, two developed symptoms of the disease. The two cases were bitten, however, while in the provinces. Both received the treatment, but in one the treatment was given too late, and in the other the set of injections was not given complete. One hundred and fifty-one suspected dogs were examined, but none proved positive.

(*g*) *Influenza.*—Sporadic cases of this malady occurred during the year and resulted in 39 deaths. Nothing remarkable has been noted in this connection, except the apparent higher case mortality (20.70 per cent) of sporadic cases as compared with that in times of epidemic (3.04 per cent).

3. MISCELLANEOUS HEALTH WORK

(*a*) *Rat exterminaton.*—Although no local cases of plague have occurred since 1914, the work of extermination of rats has proceeded as usual. A total of 81,630 rats have been caught and sent to the Bureau of Science for plague examination. None proved positive. In this connection mention must be made of the positive human case of plague discovered on June 4, originating from Amoy, China, where the disease was prevalent at the time. The patient landed in Manila on June 1, fell sick on the morning of June 3 and died before midnight on June 4. Stringent measures were taken to prevent the spread of infection. As a result, no further cases occurred.

(*b*) *Mosquito eradication.*—There were no departures from the plan adopted in 1921. In all, 12,273 houses with mosquito breeding-places were found; mosquito-infested premises, 11,102; breeding-places oiled on public properties, 123,238; lineal feet of drains ordered dug, 1,640; square feet of grass ordered cut, 1,846; drums of oil used, 273.

(*c*) *Fly extermination.*—No departures from measures adopted in previous years were had. A total of 1,910 stables were inspected and 1,020 were ordered cleaned. In addition, refuse-dumps in different sections of the city were disinfected.

(*d*) *Medical relief.*—Patients treated in health stations gave a total of 9,618; domiciliary calls, 20,539.

(*e*) *Physical examination.*—A total of 1,171 examinations were performed for Civil Service applicants and employees.

(*f*) *Water-supply.*—The work in this connection consisted in: (*a*) Daily biological examination of samples from the Metropolitan Water District; (*b*) analysis of water of artesian wells and of the water-supply in public establishments, such as hotels, tiendas, saloons, and schools.

4. ACHIEVEMENTS DURING 1922

(*a*) Prohibition against serving of drinking water in "sari-sari" tiendas.

(*b*) Increase of portions of population immunized against cholera and typhoid-fever.

(*c*) Prohibition against hand-scraping of the ice served in refreshment establishments, and adoption of safe hand-machines for the purpose.

(*d*) Decrease of areas of lowlands by filling up.

(*e*) Decrement of the general death rate from 26.42 to each 1,000 inhabitants as secured in 1921 to 24.09 for the year, and of the infant mortality rate from 234.15 to 194.24. These accomplishments alone constitute in themselves a health achievement of no mean importance.

SANITATION IN THE PROVINCES

1. VITAL STATISTICS

	Estimate 1922 [a]	Average 1917–21	Remarks
Population	9,397,360	8,979,310	
Births	246,939	333,995	
Marriages	48,309	72,267	
Deaths	137,085	250,362	
Infant mortality	38,564	65,650	
Birth rate	26.28	37.20	—10.92
Marriage rate	10.28	16.10	— 5.82
Death rate	14.59	27.88	—13.29
Infant mortality rate	156.17	196.56	—40.39

[a] Figures for 1922 are all incomplete, except population.
Reports of 29 provinces up to third quarter.
Reports of 10 provinces up to second quarter.
Reports of two provinces up to May and October (taken from the Monthly Health Reports).

2. EPIDEMIOLOGY

	Deaths
(*a*) Cholera mortality—average from 1917–1921	6,779
Cholera during 1922, 91 cases	65
Net decrease in mortality	6,714

2. EPIDEMIOLOGY—continued

	Deaths
(*b*) Dysentery mortality—average 1917–1921	10,949
Dysentery during 1922, 11,745 cases	6,898
Net decrease	4,057
(*c*) Smallpox mortality—1917–1921	13,633
Smallpox during 1922, 126 cases	12
Net decrease	13,621
(*d*) Typhoid fever mortality, 1917–1921	3,111
Typhoid fever during 1922, 2,451 cases	1,709
Net decrease	1,402

3. ACHIEVEMENTS DURING 1922

(*a*) Anti-smallpox vaccination:	
Total number of vaccinations	1,774,022
Total number of inspections	1,284,138
Total number of positives	786,250
Total number of negatives	497,888
Total number of vaccine units sent	2,008,500
Total number of vaccine units used	1,888,500
(*b*) Anti-typhoid vaccination:	
Total number of adults vaccinated	11,516
Total number of children vaccinated	7,456
Total number of vaccinations	18,972
(*c*) Anti-cholera vaccination:	
Adults, total vaccinated	145,424
Children, total vaccinated	104,091
Total	249,515

(*d*) *Provincial and municipal health organizations*

(1) The location and up-keep of offices have been greatly improved; the records and files as well as their equipment and supplies have been standardized.

(2) Dispensaries in most of the municipalities have been given suitable location, and steps have been taken to standardize the equipment and work done therein.

(3) *Personnel.*—The morale of health officials have been brought to a still higher level, with the result of greater individual activity and efficiency, and the development of a higher regard for duties and responsibilities.

(*e*) *Disease-eradications*

(1) Outbreaks of dangerous communicable diseases have invariably been nipped in the bud. Cholera, smallpox, and typhoid-fever have been placed under effective control. Dysentery is decreasing.

(2) As a result of suppressive and preventive measures, including vaccination, the incidence of preventable diseases has declined in a remarkable manner with a consequent lowering of the general mortality and infant mortality rates (See Vital Statistics).

(*f*) *Health Education.*—Topics of lectures by provincial health officials have been standardized and affixed calendar instituted.

SANITATION IN MINDANAO-SULU

1. VITAL STATISTICS

	1922	1921
Population	632,548	618,364
Births	11,813	17,281
Deaths	6,333	9,174
Deaths under one year	1,704	2,295
Birth-rate	18.67	27.90
Death-rate	10.01	14.80
Infant-mortality rate	144.24	142.93

The decrement of the death rate is certainly remarkable.

2. EPIDEMIOLOGY

(*a*) *Cholera.*—No cases of true Asiatic cholera occurred.

(*b*) *Dysentery.*—Despite the falling off in the incidence and mortality rates, the disease continues to be a great problem.

(*c*) *Smallpox.*—For the last five years, the disease had constantly occurred, especially in the provinces of Bukidnon and Misamis. Thanks to the intensive vaccination campaign undertaken, the disease is placed under control in January. Since then, the Division has remained clear of smallpox. The six deaths reported occurred during the first week of the year among cases reported for 1921.

(*d*) *Typhoid fever.*—Under control. Deaths reduced from 66 as reported last year to 40.

(*e*) *Influenza.*—Sporadic cases still occur; mild in character, occurring mostly at the change of monsoons.

3. ACHIEVEMENT DURING 1922

(*a*) Anti-smallpox vaccination:	
Total vaccinations	55,785
Total positives	29,784
Total negatives	26,001
Percentage of positives	53.21
(*b*) Typho-chol vaccinations. (Mixed and typhoid and cholera.)	
Total vaccinations	34,796
(*c*) Dispensary service:	
Total cases	80,744
Total treatments	178,941

(*d*) Hospitals:

Total number in operation	8
Total admissions	5,644
Total discharged	5,339
Total died	224

(*e*) Training School for nurses:

Total enrollment	29

(*f*) Laboratories:

Total examinations made	9,770

(*g*) *Disposal of excreta.*—The use of Antipolo closets is becoming generalized. Construction of a sewerage system is planned for Zamboanga.

ACTIVITIES OF THE ROCKEFELLER FOUNDATION

The activities of the International Health Board of the Rockefeller Foundation in the Philippine Islands during 1922 extended over a period of nine months. During this time, the efforts of the Board were exerted in the direction of improving nursing education, demonstrating more recent methods of malaria control, and in an attempt to define the hookworm problem in these Islands.

Nursing.—A school of public health nursing has been established through the efforts of Miss Alice Fitzgerald, of the staff of the Rockefeller Foundation. The school graduated its first class of 30 nurses in January, 1923. It was thru the efforts of the Philippine Health Service that the establishment of the school for Public Health Nursing was made possible. Financial support for the School in the amount of ₱25,000 was made available through a readjustment of certain items of the Service Budget for 1922.

Malaria Control Work.—After a preliminary investigation of the whole province, field surveys were ultimately concentrated in four representative localities of Laguna, and experimental work was conducted at Los Baños. The medical side of the investigation was undertaken by Dr. R. G. Padua of the Philippine Health Service, while its engineering and entomological aspects were entrusted to the hands of Mr. W. D. Tiedeman of the Rockefeller Foundation.

Blood smears were taken and the splenic index determined. As a result of the investigation, an average of 62.15 per cent of 2,267 persons examined were found to have enlarged spleen and 7.94 per cent were parasite-positive. And, of 14 autopsies performed in various places of the province, 35.71 per cent were deaths due to malaria but the rest, altho due to various other causes, yet likewise showed traces of post-malarial lesions.

Mosquito-breeding experiments as well as the classification of the anopheles fauna within the zones of investigation were conducted. Various methods of larva destruction have been tried out, i. e., with larvicides and larva-eating fishes (top minnows), and larva-eating larvæ.

Similar investigation was made at the Iwahig Penal Colony, Palawan, by Dr. R. G. Padua. As a result, it has been ascertained that of 1,228 colonist examined, 48.78 per cent had splenic enlargements, and 15.06 per cent were active malaria-carriers.

To say the least, much has been gained in these investigations, for the interest of the people in control measures was aroused and greater care in diagnosis exercised to an extent not hitherto accomplished in normal times.

Intestinal Survey.—The immediate objective is to define the incidence of intestinal parasites in these Islands. Work carried on in Bilibid Prison showed an incidence of 90 per cent for hookworm alone. Later, surveys were made in various towns of Cebu, showing an incidence range from 40 to 83 per cent. After organizing the hookworm campaign in Cebu, the work was turned over to the Philippine Health Service; and through the efforts of this Service the work has expanded very rapidly until at the present time more than 10,000 cases have received free treatment. A cheap and effective remedy has been introduced in the use of carbon tetrachloride at a cost of about two centavos a dose.

Taytay is being resurveyed to check up the work of older investigators. From 100 specimens, an incidence of 40 per cent has been obtained. This finding indicates that there has been a general underestimate in the first.

Scholarships.—The Foundation has sent five scholars to the United States for advanced graduate study in public health, nursing, and medicine. Two men have been sent from the Philippine Health Service, one from the College of Medicine and Surgery of the University of the Philippines, and two nurses from the Philippine General Hospital.

COUNCIL OF HYGIENE

During the year, fourteen meetings in all were held, three regular and eleven special. Action has been taken upon the following: proposed law on chiropractic; proposed sanitary code; amendments in the existing law regulating the practice of medicine in the Philippine Islands; subvention of City of Manila for health work during 1922; enforcement of sanitary ordinances and regulations in Manila; preparation and rating of examination papers for the entrance and promotion of commissioned officers of the Philippine Health Service; investigation of the method of treatment given to lepers at San Lazaro Hospital and the Culion Leper Colony; Quebral's influenza cure; inspection of aërated-water factories; study and report on smallpox epidemic of 1918–1919 and general vaccination in the Philippines.

PUBLIC HEALTH NURSING

The staff had had such varied assignments as the following: six nurses detailed with the Typhoid Investigation Committee; one detailed in Ilocos Norte for yaws duty; another was detailed at Iloilo to represent the Service at the Carnival held there in April; one nurse was detailed with the malaria survey in Laguna province; another at the Iwahig Penal Colony. In view of these special assignments, the routine work of the office was much crippled. The foregoing notwithstanding, much practical work was accomplished as may be seen in the partial summary of work given below:

1.	Prospective mothers given instruction in sanitation	1,915
2.	Prospective mothers given instruction and demonstration on care of babies	7,508
3.	Mothers and babies referred to clinics	2,103
4.	Babies under tikitiki treatment as prophylactic	1,725
5.	Babies under tikitiki treatment as curative	373
6.	Tikitiki bottles issued	1,825
7.	Birth registrations	4,140
8.	Vaccinations	3,035
9.	Breast-fed babies visited	6,582
10.	Artificially-fed babies visited	772

FOOD INSPECTION

Fines imposed for violation of Food and Drugs Act and Food Stuffs condemned and destroyed during the year ending December 31, 1922, were:

Articles examined	Number of samples
Malt liquors, wines, whisky, etc	39
Milks	26
Aërated water	632
Foods	1,136
Drinking-water	615
Total	2,448

For violation of Food and Drugs Act: Total fines .... ₱676.50

Articles condemned and destroyed	Quantity	Unit	Unit price	Value
Sardines	1,381	Cases	₱10.56	₱14,583.36
Pilchards (anchovies)	485	Cases	3.00	1,455.00
Libby's spinach	165	Cases	16.80	2,762.00
Libby's cabbage	54	Cases	16.80	907.20
Chocolates	21	Tins	.50	10.50
Biscuits	1,008	Tins	.85	856.80
Breads	649	Loaves	.05	32.45
Cakes	240	Loaves	.01	2.40
California grapes	615	Kegs	12.00	7,380.00
Hams	2	Cases	108.00	216.00
Chickens	1	Number	1.20	1.20
Articles used for handling foods	2	do.	.50	1.00
Total value				28,207.91

SCHOOL FOR SANITARY INSPECTORS AT MANILA

Toward the end of the month of June, announcements were issued to the press on the opening of a school for the training of sanitary inspectors. Examinations for entrance were held on July 5 and July 13, 1921, wherein 339 applicants participated. From this number 25 were selected, basing selection upon their marks in the competitive examinations and upon previous training and experience. The great majority of those selected were high school students and graduates. The classes were begun on August 1, 1922. The curriculum approved by the Governor-General and the Secretary of Public Instruction included the following subjects: Anatomy and Physiology, 30 hours; Medical Zoölogy, 60 hours; Sanitary Engineering, 30 hours; Bacteriology, 30 hours; Vital Statistics and Epidemiology, 60 hours; English, 40 hours; Spanish, 20 hours; Industrial Hygiene, 10 hours; General Sanitation, 30 hours; Child Hygiene, 30 hours; Social Economics, 15 hours; Publicity, 15 hours; Organization and Administration, 30 hours; Household Hygiene, 10 hours; Finance, 15 hours; Psychiatry and Mental Diseases, 15 hours; First Aid, 10 hours; Seminary, 10 hours.

The curriculum above was scheduled to extend from August 1 to December 15, 1922. From December 16, 1922, to January 31, 1923, the students were given practical field work in the different City Health Stations in Manila. The instructors were mainly from the Medical Officers of the Philippine Health Service. Four instructors were from the University of the Philippines, one from the National University, and one was unattached.

Upon the recommendation of the Secretary of Public Instruction, the name of the School was changed from the "School of Public Health" to the "School for Sanitary Inspectors," Philippine Health Service.

Plans are under way to continue the school during the year 1923 and the years to come. The demand for properly trained inspectors is urgent, and only through the agency of this school can a sufficient number be secured to meet such a demand.

HOSPITALS AND DISPENSARIES

At the close of the year, the Service had twenty-one hospitals in operation, nine in Mindanao–Sulu, and twelve scattered in Luzon and the Visayan islands. This number certainly falls short of the actual needs of the population. The portion thereof reached through the existing relief agencies is too small, probably not more than 40% of the population. While it is realized that hospital relief is but a supplementary agency in public health administration, hospital facilities and service must needs be expanded to the end that its possibilities as a factor in health conservation may be developed to the full. In the past, lack of funds and of perspective of possibilities has always hindered our attempts to increase the number of hospitals. Of late, however, the public mind has been aroused and the cry has gone all over the Islands for more institutions for medical relief. The time seems ripe for a full expansion of hospital service. As a matter of fact, bills are pending action in the Legislature calling for the appropriation of the necessary funds and the establishment of provincial hospitals. The prospects in this regard are therefore of the best.

MODERN TREATMENT OF LEPROSY

San Lazaro Hospital.—The different treatments that have been instituted for experimental purposes among a select group of cases by the Committee on Leprosy Investigation were continued during the year with varied success. Of the 122 cases that have been under treatment by the Committee since its creation in May, 1920, 21 have become negative, 51 have improved, none became worse, five died from intercurrent diseases, and 45 were sent to Culion for diverse reasons, the chief being to discongest the overcrowded quarters of the Leper Department. Sodium gynocardate was used in 24 cases, sodium morrhuate in 15, chaulmoogra ethyl esters, with or without iodine, in 55, Mercado mixture in 13, and E. C. C. O. in 15. No one preparation has been used exclusively in any determined group as was planned at the beginning, but mixed treatments have been found beneficial in most cases.

It has been observed that cases improved perceptibly with each one of the preparations employed up to a certain degree only, and then became stationary until it became necessary to switch the treatment when progress became again evident. In other cases, old tuberculous foci became active with the treatment and it had to be stopped on this account.

Culion Leper Colony.—Thru the interest of His Excellency the Governor-General and the encouragement received from the Legislature and the Emergency Board by a more liberal allotment of funds, more than 4,000 cases were placed under treatment by the end of the year under competent technical personnel. Tuberculosis has been the most frequent complication in the cases under treatment and a high mortality from this cause was registered during the year. A committee has been created to study this phase of the problem so as to eliminate it as a complication in the future.

TREATMENT OF CHOLERA-CARRIERS

The small epidemic of cholera at the beginning of the year was taken advantage of to institute an investigation into the relative merits of certain preparations which have been preconized in the treatment of carriers. The work was conducted at San Lazaro Hospital by Dr. Manuel V. Arguelles between January 9 and February 6.

The following preparations were tried:

(1) Aromatic sulphuric—15–20 drops tid;
(2) Buttermilk—and libitum;
(3) Nascent chlorine obtained by mixing potassium chlorate and hydrochloric acid;
(4) Salol urotropin mixture;
(5) Methylene blue in 0.10 capsules every hour till 10–15 are taken, followed by calomel; and
(6) Milk, by intramuscular injections.

The stools were examined every day for cholera vibrios. The carriers were hospitalized till four successful daily negatives were secured.

The results averaged as follows:

	Hospital days
(1) Methylene blue	4.57
(2) Milk	5.00
(3) Aromatic Sulphuric	5.25
(4) Buttermilk	5.50
(5) Mascent chlorine	7.28
(6) Salol urotropin	16.65

PLANS AND PROJECTS FOR 1923

1. Amendment of existing sanitary legislation to provide for: uniform and fixed municipal and provincial contributions to the provincial health funds; a change of the existing procedure for the appointment of provincial health personnel; higher stand-

ards of entrance and promotional examinations for officers of the Philippine Health Service; standardization of salaries of the commissioned personnel; and amendment of regulations governning promotional selection of commissioned officers and of statutes referring to the employment of experts and specialists, with a view to enhancing the power of selection conferred upon the Director of Health and to the lifting of certain limitations which have become obsolete.

2. Expansion of hospital service in provinces.
3. Extensive prophylactic vaccinations against smallpox, cholera, and typhoid-fever to be continued.
4. Yaws campaign to be continued.
5. Hookworm surveys and malaria control work to be continued with the coöperation of the Rockefeller Foundation.
6. Expansion of veneral clinic service in Manila and extension thereof to such provinces as may require it.
7. Further researches to be made in the epidemiology and treatment of leprosy.
8. Six-month "refresher" courses in hospitals to be given regularly to such medical officers as are in need of it.
9. Standardization of dispensaries and of simple-remedy packages provided for towns having no dispensaries.
10. Standardization of offices,—files, records, furniture, and equipment.
11. Standardization of work of personnel,—field inspections and office work.
12. Health officers to be required to keep a diary.
13. Establishment of circulating libraries at the offices of district health officers for the distribution of scientific literature and books to local health officers.
14. Educational campaign to be fully developed along the same lines as those of last year, through lectures, the healthmobile, leaflets, etc.
15. Re division of certain provinces to increase number of municipal divisions or provide for a more logical aggrupation of municipalities.
16. Drives for more Antipolo closets and for better waste-disposal to be instituted regularly.
17. Expansion of child hygiene work in provinces.

THE RESULT OF MODERN ANTI-LEPROTIC TREATMENT IN THE PHILIPPINES

As far back as 1903, the records at the San Lazaro Hospital, Manila, show the condition of lepers at the time of discharge.

These discharges include those sent back from the Colony at Culion. Many of the early records, however, are unsatisfactory in that they do not indicate whether the patient discharged still had leprosy or whether he was admitted upon an erroneous diagnosis. Others are so unsatisfactory that it is almost impossible to get a definite idea of the condition of patients when discharged. A number of patients, after varying periods of stay in the Hospital or the Colony, were finally found to be nonleprous and their certificates of discharge showed them as cases of yaws, syphilis, gangosa, etc. It is only when we get down to the year 1915 that something definite concerning the condition of patients discharge can be obtained. The reports previous to 1915 have, therefore, been discarded as unreliable.

From 1915 to the end of 1922, the number of patients that received certificates of parole or of discharge were as follows:

Year	No. of negatives.
1915	95
1916	53
1917	83
1918	18
1919	10
1920	31
1921	53
1922 [a]	133

[a] Only 500 received intensive treatment—which began January, 1922 (one year duration) with more than three different drugs.

The percentage of discharged negatives cannot be figured out with accuracy, as of the 5,300 average segregated lepers in any one year, only a small proportion have ever been under adequate medical treatment.

As may easily be seen, the year 1922 shows the highest number of negatives discharged through the institution of an intensive modern anti-leprotic treatment. This result is enhanced by the fact that intensive treatment was actually given to only 500 patients in Culion and to about 300 patients in San Lazaro, or a total of 800. A number of voluntary patients received the Mercado treatment.

The results above show what can be accomplished when an adequate personnel can be had to administer intensive treatment. Deductions can easily be made on what results may be expected if every patient in Culion and San Lazaro is given intensive treatment.

If we wish to take the actual number that received intensive treatment during 1922 as a basis, a higher number of discharged negatives may be expected. The 78 cases experimented upon in the San Lazaro Hospital and the 500 cases in Culion (a total of 578) would yield a still higher percentage if treated with ethyl esther solely. Despite the multiplicity of treatments experimented with, 133 became negatives out of the 578, giving 23 per cent, which is a little lower than McDonald's figure (37 per cent). Estimating the recoveries at 20 per cent, there is no reason why we should not expect a discharge of 800 patients a year, if this intensive treatment were given to every patient in Culion. The result with ethyl esther only (averaging two years' treatment) gave 27 per cent of recoveries.

S. TIETZE,
Member, Philippine Leprosy Board, Physician in charge, Leper Department, San Lazaro Hospital.

PHILIPPINE ANTI-LEPROSY SOCIETY

P. O. BOX NO. 783

MANILA, P. I., *January 25, 1923*

MR. V. JESUS, *Director of Health, Manila, P. I.*

DEAR SIR: It is with pleasure that I inform you that the Philippine Anti-Leprosy Society sent 101 boxes, making four truch loads of things to the lepers at Culion for Christmas, and four boxes to San Lazaro Hospital.

These donations were from the pepole in Manila and from the other Islands who responded to our appeal. The things donated were clothing, magazines, toys, cigars, cigarettes, tobacco, phonograph records, gold filled chains and lockets, eye-glasses, canned goods, nuts, candies, beans, cakes, biscuits, shoes, hats, *chinelas*, and money, etc. With the money donated, we purchased a motion-picture machine and projector-lamp costing ₱631, candy ₱44, and cigars and cigarettes ₱50.

Mr. Roberts has just returned from Culion and reports the best Christmas they have ever had.

Yours truly,

PAULA HICKS
Secretary

CHRISTMAS IN CULION

Christmas, 1922, in Culion was red-letter day, one long to be remembered by those unfortunate inmates of the Leper Colony. In the afternoon of December 23, had you been present in the Colony, you would have witnessed an interesting scene, for Santa Claus had already found time to visit the leper children. Accompanied by the band Mr. Arturo Tister, clothed in a long, red gown with white trimmings and generously covered with snow, leaning on his cane and weighted down by a bag of toys, slowly wended his way through the colony announcing that on the following afternoon he would receive all the children in the open air theatre. It was a picturesque sight to see this veritable Santa Claus with his long flowing white beard and snowy eyebrows, bent by his many years' service to children in all part of the world, thread his way through the leper colony followed by scores of eager children, many of whom realized for the first time in their lives that Santa Claus was no myth.

Long before the appointed hour, the theatre was surrounded by hundreds of girls and boys who gazed in astonishment upon a scene, the like of which had never been witnessed before in Culion. In the center of the theatre, Doctor Avellana, Director of the Culion Leper Colony, had erected a huge Christmas tree that bent under its weight of toys. Fastened to strings running from the tree to the posts of the theatre were hundreds of toys, dolls, pop-guns, sets of dishes—in fact, toys of all descriptions and kinds. The children formed in line and one by one entered this Christmas paradise where every child received an apple, a generous supply of candy, fancy crackers, and some toy that attracted his attention. The sun had already set behind the western hills before the children departed for home, since they seemed loath to leave this charming spot. Men and women from all parts of the Colony had gathered to witness this unusual scene, which seemed to afford them as much genuine pleasure as it did the children.

On Christmas Day the distribution of gifts to the general public began. The lepers were divided into groups according to the part of the Islands from which they came. Each group had its own representative and these representatives constituted what was known as the "Advisory Board." By general consent, it was decided to start with the smallest group and work up towards the largest. More than one-hundred boxes of clothing that had been collected by the Philippine Anti-Leprosy Society were taken to the Club House in the Colony where the distribution took place. The inmates were admitted in groups of ten and each leper received a gift and a package of cigarettes. It took nearly eight days to finish the distribution and make sure that every leper received some remembrance. Those who, on account of age or sickness, were unable to go to the Club House were also provided for through their respective representatives. Even the prisoners were remembered. The last day was set aside for distributing clothing to the children. There was a generous supply for all. Each child was again given a large handful of candy.

Those patients confined in the hospitals were not forgotten. Through the kindly interest of Miss Agoncillo, Chief Nurse, and of Doctor Rodriguez, on Christmas Day every patient in the hospitals received a bag of candy, an apple, and some cigarettes. Clothing was also given to all hospital patients.

On December 24 the Jesuit Fathers held a special program where the children of the dormitories received gifts of money, clothing, and candy. The Protestant missionaries also distributed gifts to members of their congregation.

On Christmas Eve in Worcester Plaza, Miss Agoncillo prepared a Christmas tree for the Nursing Aids where they received the gifts that Mrs. C. G. Wrentmore so kindly provided for them.

It was no small task to distribute gifts to more than five thousand five hundred lepers. Thanks to the untiring interest of the Director of the Colony, Doctor Avellana, and of the leper representatives, every leper received a Christmas remembrance.

The Philippine Anti-Leprosy Society, with money contributed by private individuals, purchased a Pathé portable motion-picture machine in order that the unfortunate inmates of the hospitals might be able to have a little diversion. Probably for the first time in their lives, some of the poor, bedridden lepers were able to witness a cinematograph program. Thanks to the generosity of Mr. Brown of the Gaiety Film Exchange, some very fine films were shown in Culion during the Christmas holidays. The Philippine Anti-Leprosy Society also sent to Culion for use in the hospitals a Victrola that was donated by Sherman, Clay and Co., of San Francisco. The victrola is taken from ward to ward, and so popular it is that the lepers ask for music at five o'clock in the morning. Some of them said that they forgot their sickness when they heard the music and it has helped more than anything else to bring a little sunshine into the clouded lives of these unfortunate people. Any contributions of records will be most gratefully received by the Philippine Anti-Leprosy Society.

The Philippine Anti-Leprosy Society wishes to thank all those who contributed so generously towards making Christmas, 1922, the greatest in the history of the Colony. Gifts were received from Cagayan to Zamboanga. The teachers and pupils of the public schools in Manila deserve special mention for the interest they took in preparing gifts for the leper children. Thanks to the generous donation of La Perla, all the children were given fancy cakes and crackers. The Thanksgiving Club of Manila sent many new garments that they themselves made for the leper children. It would be impossible to mention in detail all individual donations, but everybody can be assured that his contribution helped make posssible the finest Christmas Celebration in Culion since the establishment of the Colony in 1906.

MISCELLANEOUS

Con el propósito de corregir la impresión errónea creada por un suelto publicado recientemente en uno de los periódicos de la localidad sobre la designación del Dr. S. V. del Rosario para supervisar los trabajos de los oficiales de Sanidad que están actualmente tomando cursos especiales de clínica y bacteriología en diferentes instituciones del Gobierno, se transcribe a continuación una traducción fiel de la Orden Especial No. 2 de la Oficina de Sanidad de fecha 5 de febrero de 1923:

"Párrafo 9. El Dr. S. V. del Rosario, Director Auxiliar de Sanidad, queda por la presente designado para supervisar los trabajos de los oficiales médicos de este servicio en relación con los cursos especiales de clínica (médica y quirúrgica) y bacteriología en el Hospital General, la Oficina de Ciencias, el Hospital de San Lázaro y el Colegio de Medicina y Cirugía. El Doctor Rosario cuidará también de que el programa íntegro tal como ha sido preparado por este Servicio, respecto a los cursos arriba indicados, se lleve concienzudamente a cabo.

"El Cirujano primero Manuel V. Argüelles queda por la presente designado para auxiliar al Doctor Del Rosario en este trabajo."

The automobile service of the Philippine Health Service has been reduced to two only. The two automobiles to be used will be Ford No. 78 and Ford No. 81. The use of automobiles Nos. 75, 76, 79, and 80 have been discontinued.

The services of chauffeurs Macario Bautista, Pedro Bernabe, Pablo Macarangal, and Inocencio Rosuello have been dispensed with, provided, however, that chauffeur Rosuello shall temporarily take the place of Leon Gabriel who is sick in hospital.

Automobile No. 77 which has no chauffeur is also declared out of use.

The automobile service from the home to the office or vice versa of the Assistant Director of Health and chiefs of divisions is discontinued.

TRINIDAD VALLEY NOW FREE FROM WATER-BORNE DISEASES

Trinidad Valley in which most of the vegetable supply of Baguio and vicinity is raised, is now free from such diseases as typhoid fever, cholera and bacillary dysentery, the last case of typhoid fever having occurred in the township of Trinidad on September 12, 1922. The small epidemic of typhoid fever which occurred in the Trinidad Agricultural School in December, 1921, has been eradicated for nearly a year now, and the pollution of the Trinidad River by the sewage from Baguio, which made possible that epidemic, is now corrected by chlorination and filtration. The vegetable products, therefore, coming from that locality are free from contamination and can be served on the table without danger.

PROGRESS OF HOOKWORM INVESTIGATION IN THE ISLAND OF CEBU

No less than 7,000 persons have already been treated since December of last year. At Argao the record number of 512 persons were treated in one day.

The 16th Sanitary Division, comprising the municipalities of Naga, Talisay, Minglanilla and San Fernando, is already under treatment since the second week of January. Treatment in the 12th Sanitary Division, comprising the municipalities of Badian, Moalboal, Alcantara, and Alegria, will begin this week and by the end of the month for divisions will be under treatment.

The survey of Dalaguete is finished with 7 per cent hook and only 98 per cent Ascaris forgetting the other parasites. Oxyuris infection was found to be heavy and high in all those places, probably about 70 per cent in all screened feces.

Doctor Ibañez gives talks in Visaya and Doctor Manalang on demonstrations of the hookworm, eggs, larva, etc. to the teachers and students. It was found that getting the students and teachers has a great publicity effect because in the school there is hardly a home that is not represented.

With the survey should invariably go treatment. Without it people are disappointed, they do not see the value of the survey, they think or take for granted that they are no different from the people of Carcar and other places whom they know carry the worms. With treatment, the news spreads like fire, they listen to talks, and will follow sanitary instructions. In other words it seems already known in the province that whenever the Commission goes to a town it means treatment.

If found are available the work will be extended thruout the islands as worse places (as far as infection is concerned) than Carcar will be found. Such has been the experience of the past as may be gleaned from the reports of special investigations and those of the Sanitary Commissions.

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of January, 1928]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

JANUARY, 1923

Date	Pressure.[1] mean	Temperature						
		In shade.[2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	760.58	24.5	33.2	8	19.3	4	27.2	27.4
11-20	60.59	24.5	32.8	13	18.7	14,20	27.1	27.4
21-31	60.41	24.2	31.2	24	17.8	23	26.7	26.9

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity,—1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

JANUARY, 1923

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent.	*Per cent.*		*Per cent.*	
1–10	79.1	84.2	6	72.4	2
11–20	75.7	81.4	16	71.2	20
21–31	73.7	82.7	25	64.8	27

Date	Wind				Atmidometer (open air)[1]		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1–10	N. E quad	1,452.0	253.0	5	30.4	4.2	4,8
11–20	N. E. E.	1,346.0	183.0	20	37.8	5.7	20
21–31	N. E quad	2,262.0	476.0	29	47.6	7.4	27

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1–10	35 20	6 50	8	5.9	5
11–20	50 30	8 35	20	0.5	1
21–31	31 55	8 05	22	1.7	3

[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	8	5	13	48.87
Filipinos	660	574	1,234	52.37
Spaniards	5	4	9	54.24
Other Europeans	2	2	4	41.85
Chinese	35	22	57	37.61
All others	6	....	6	32.34
Total and average	716	607	1,323	51.29

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	132	110	242	14	14	28	270	85.14
No. 2, Meisic	113	74	187	13	17	30	217	24.56
No. 4, Sampaloc	118	105	223	8	6	14	237	56.62
No. 5, Tondo	207	190	397	23	8	31	428	62.59
No. 6, Paco	85	78	163	3	5	8	171	61.92
Total	655	557	1,212	61	50	111	1,323	51.29

Number of births attended by physicians, living, 385; stillbirths, 25.
Number of births attended by midwife, living, 103; stillbirths, 1.
Number of births attended by family, living, 835; stillbirths, 24.

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	3	1	4	15.04
Filipinos	329	316	645	27.37
Spaniards	1	....	1	6.03
Other Europeans	1	....	1	10.46
Chinese	24	7	31	20.45
All others	4	....	4	21.56
Total and average	362	324	686	26.60

TOTAL DEATHS BY SOCIAL CONDITIONS, INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	112	100
Divorced	....	....
Widowed	22	74
Single	286	191
Condition not stated	2	....
Total	422	365
Grand total	787	

Stillbirths	51
Number of deaths with medical attendance	369
Number of deaths without medical attendance	418

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	43	37	3	1	84
30 days to under 1 year	97	66	13	8	184
1 year to under 2 years	14	31	1	3	49
2 years to 4 years	24	13	2	2	41
5 years to 9 years	4	4	2	1	11
10 years to 14 years	6	4	2	1	13
15 years to 19 years	20	11	3	3	37
20 years to 29 years	42	32	9	11	94
30 years to 39 years	29	23	5	....	57
40 years to 49 years	20	25	5	3	53
50 years to 59 years	23	12	9	4	48
60 years to 69 years	13	23	1	2	39
70 years to 79 years	16	20	3	1	40
80 years to 89 years	6	9	....	....	15
90 years to 99 years	4	13	....	1	18
100 years and over	1	1	....	....	2
Age not stated	....	....	....	....	....
Total	362	324	58	41	785

NOTE.—Two (2) male Filipinos, one of 12 years and one of unknown age whose permanent residences are unknown, not included in this table.

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	147	46.35
No. 2, Meisic	103	11.66
No. 4, Sampaloc	137	32.73
No. 5, Tondo	303	44.31
No. 6, Paco	97	35.12
Total	787	30.51

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			22	13					2	1	2		40
4. Malaria			2	3									5
6. Measles				1									1
10. Influenza			2	4						1			7
14. Dysentery		1	2	3							1		7
17. Leprosy			1										1
19. Other epidemic diseases			6						1				7
20. Purulent infection and septicæmia				1									1
24. Tetanus			2	3									5
27. Beriberi			3	3									6
27a. Beriberi, infantile			41	21					2				64
28. Tuberculosis of the lungs			62	56					7	1	1		127
29. Acute miliary tuberculosis				1									1
30. Tuberculous meningitis			4	3									7
31. Abdominal tuberculosis			3	6					2				11
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			3	1									4
39. Cancer and other malignant tumours of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver	1		2	3					1				7
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1										1
43. Cancer and other malignant tumors of the breast				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			3	1									4
47. Acute articular rheumatism				2									2
48. Chronic rheumatism and gout				1									1
49. Scurvy				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			9	4									13
(2) Cerebro-spinal meningitis (undefined)				1									1
64. Cerebral hæmorrhage, apoplexy			2	5									7
65. Softening of the brain				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense—Ctd.													
66. Paralysis without specified cause			2										2
68. Other forms of mental alienation			2	1									3
74. Other diseases of the nervous system			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			2	4					1				7
79. Organic diseases of the heart			4	4	1								9
80. Angina pectoris			1										1
81. Diseases of the arteries, atheroma, aneurysm, etc									1				1
82. Embolism and thrombosis			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			32	23						1			56
90. Chronic bronchitis			4	5									9
91. Broncho-pneumonia			20	23									43
92. Pneumonia			4	3					1				8
94. Pulmonary congestion, pulmonary apoplexy	1		1	1									3
96. Asthma			1										1
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa			1										1
104. Diarrhœa and enteritis (under 2 years)	1		9	16					1				27
105. Diarrhœa and enteritis (2 years and over)			4	3									7
107. Intestinal parasites			1										1
109. Hernias, intestinal obstructions			1	1					1				3
113. Cirrhosis of the liver			3										3
115. Other diseases of the liver			1	2									3
117. Simple peritonitis (nonpuerperal)				1									1

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1	5									6
120. Bright's disease			10	14					1				25
122. Other diseases of the kidneys and annexa				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				3									3
137. Puerperal septichæmia				1						1			2
138. Puerperal albuminuria and convulsions				1						1			2
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(3) Other congenital malformations			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1). Premature birth (not stillborn)			6	3					1				10
(2). Congenital debility			28	29			1			1			59
152. Other diseases peculiar to early infancy:													
(2). Other causes peculiar to early infancy			2	1					1				4
XII. Old age													
154. Senility			8	31					1				40
XIII. Affections caused by external causes													
169. Accidental drowning			1										1
181. Electricity (lightning excepted)			1										1
182. Homicide by firearms			1										1
183. Homicide by cutting or piercing instruments			1										1
186. Other external violence			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1										1
Total	3	1	329	316	1	.....	1	.....	24	7	4	.....	686
Grand total	4		645		1		1		31		4		686

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			3	3									6
4a. Malarial cachexia				1									1
9. Diphtheria and croup				1									1
14. Dysentery				2									2
18. Erysipelas				1									1
20. Purulent infection and septicæmia			1										1
24. Tetanus			1	1									2
27a. Beriberi, infantile			5	2									7
28. Tuberculosis of the lungs			11	1					2				14
30. Tuberculous meningitis			1										1
31. Abdominal tuberculosis			1										1
34. Tuberculosis of other organs			1										1
39. Cancer and other malignant tumors of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver			2										2
43. Cancer and other malignant tumors of the breast				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1									2
53. Leuchæmia				1									1
54. Anæmia, chlorosis	1												1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			3	1									4
64. Cerebral hæmorrhage, apoplexy				1									1
68. Other forms of mental alienation			1										1
III. Diseases of the circulatory system													
82. Embolism and thrombosis				1									1
IV. Diseases of the respiratory system													
89. Acute bronchitis			2	3									5
90. Chronic bronchitis				1									1
91. Broncho-pneumonia			1	2						1			4
92. Pneumonia			2										2

V. Diseases of the digestive system													
100. Diseases of the pharynx			1										1
102. Ulcer of the stomach			1										1
104. Diarrhœa and enteritis (under 2 years)			1	1									2
105. Diarrhœa and enteritis (2 years and over)			1										1
106. Ankylostomiasis			1										1
115. Other diseases of the liver				1									1
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis									1				1
120. Bright's disease			2										2
129. Uterine tumor (noncancerous)				1									1
131. Cysts and other tumors of the ovary				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
136. Other accidents of labor				1									1
137. Puerperal septicæmia				2									2
138. Puerperal albuminuria and convulsions				2									2
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene				1									1
144. Acute abscess			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility			4	1									5
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy				1									1
XII. Old age													
154. Senility				1									1
XIII. Affections caused by external causes													
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)				1									1
181. Electricity (lightning excepted)			1										1
182. Homicide by firearms			1										1
186. Other external violence									1				1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1										1
Total	1		53	40					4	1			99
Grand total	1		93						5				99

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
4. Malaria					1	1
6. Measles					1	1
14. Dysentery					1	1
18. Erysipelas					1	1
20. Purulent infection and septicæmia					1	1
24. Tetanus				3	1	4
27a. Beriberi infantile	1			6	64	71
28. Tuberculosis of the lungs					1	1
30. Tuberculous meningitis					2	2
35. Disseminated tuberculosis					1	1
61. Simple meningitis:						
(1) Simple meningitis					8	8
(2) Cerebrospinal meningitis (undefined)					1	1
89. Acute bronchitis					49	49
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					14	14
94. Pulmonary congestion, pulmonary apoplexy	1				1	2
104. Diarrhœa and enteritis					22	22
115. Other diseases of the liver					1	1
117. Simple peritonitis (nonpuerperal)					1	1
119. Acute nephritis					2	2
150. Congenital malformations (stillbirths not included):						
(3) Other congenital malformations				1		1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	4		1	4	1	10
(2) Congenital debility	11	8		27	18	64
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1	1		2	1	5
189. Cause of death not specified or ill-defined					1	1
Total	18	9	1	43	197	268

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,103
Number of rats caught by spring traps	4,848
Number of cage wire traps set	722
Number of rats caught by cage wire traps	2
Number and kind of baits (coconuts)	21,825
Number of poison portions placed	18,000
Number of rats found poisoned	944
Number of rats killed by clubs and other weapons	1,956
Number of rats found dead from other causes	904
Total number of rats otherwise caught, found dead or killed	8,654
Total number of rats sent to the Laboratory for examination	8,654
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JANUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES [a]

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	8	0	14	4	17	1	16	5	11	2	78
Female	9	0	11	1	16	1	8	1	6	0	53
Dead:											
Male	1	0	0	1	2	2	2	1	1	0	10
Female	2	1	1	0	0	1	1	0	2	1	9
Total:											
Male	9	0	14	5	19	3	18	6	12	2	88
Female	11	1	12	1	16	2	9	1	8	1	62
Grand Total	20	1	26	6	35	5	27	7	20	3	150

DEATHS [a]

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	4	2	5	2	5	1	6	0	26
Female	1	2	0	0	1	1	4	0	4	1	14
Total	2	2	4	2	6	3	9	1	10	1	40

Total cases reported within the month in the City of Manila		183
Resident cases	155	
Non-resident cases	28	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		46
Deaths among resident cases	40	
Deaths among non-resident cases	6	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		173
Autopsy	0	
Blood culture	3	
Clinically positive	122	
Feces	1	
Widal reaction	47	
Cases confirmed as paratyphoid fever (stool examination)		3
Cases not confirmed		7

Paratyphoid fever .... Resident—Cases, 3; Deaths, 0.
Non-resident—Cases, 0; Deaths, 0. ([b])

23 Typhoid Carriers—Living, 23.

[a] Confirmed cases and deaths.

[b] All are included in the above table.

DYSENTERIES REPORTED DURING THE MONTH OF JANUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male:	0	0	2	0	1	0	2	0	0	0	5
Female	1	2	0	0	0	0	0	0	0	0	3
Dead:											
Male	0	0	0	0	2	0	0	1	0	0	3
Female	0	0	0	0	0	0	1	1	1	0	3
Total:											
Male	0	0	2	0	3	0	2	1	0	0	8
Female	1	2	0	0	0	0	1	1	1	0	6
Grand total	1	2	2	0	3	0	3	2	1	0	14

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	2	0	0	1	0	0	3
Female	1	0	0	0	0	0	1	1	1	0	4
Total	1	0	0	0	2	0	1	2	1	0	7

Total cases reported within the month in the City of Manila		19
Resident cases	14	
Non-resident cases	5	
Total deaths reported within the month in the City of Manila		9
Deaths among resident cases	7	
Deaths among non-resident cases	2	
Reported as:		
Acute dysentery	0	
Amœbic dysentery	2	
Bacillary dysentery	4	
Chronic dysentery	1	
Dysentery	11	
Erroneously reported as dysentery	1	
Total		19

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF JANUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		0
Non-resident cases	0	
Foreign cases	0	
Resident case	0	
Resident cases confirmed as cholera	0	
Resident cases not confirmed (found negative)	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	

14 Cholera carriers—Living, 6; Dead bodies, 8.

DIPHTHERIA REPORTED DURING THE MONTH OF JANUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES [1]

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	0	0	0	0	0	0	0	0	1
Female	1	1	0	0	0	0	1	0	0	0	3
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	1	0	0	0	0	0	0	0	0	0	1
Female	1	1	0	0	0	0	1	0	0	0	3
Grand total	2	1	0	0	0	0	1	0	0	0	4

DEATHS [1]

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		14
Resident cases	9	
Non-resident cases (one not confirmed)	5	
Resident cases confirmed as diphtheria	4	
Resident cases not confirmed	5	
Total deaths reported within the month in the City of Manila		1
Deaths among resident cases confirmed as diphtheria	1	
Deaths among non-resident cases	1	

Diphtheria carriers—None.

[1] Confirmed cases and deaths.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	5	5	2	3
Varioloid	0	0	0	0
Varicella	8	6	0	0
Smallpox	0	0	0	0
Measles	12	14	0	1
Whooping cough	0	0	0	0
Influenza	11	9	2	5
Bubonic plague	0	0	0	0
Beriberi	4	3	3	3
Beriberi, infantile	43	21	43	21
Pulmonary tuberculosis	104	72	70	58
Tuberculosis of all forms	12	11	12	11
Encephalitis lethargica	15	4	[a] 8	0

[a] Includes one American soldier.

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	[b] 5	1	1	1
Varioloid	0	0	0	0
Varicella	0	0	0	0
Smallpox	0	0	0	0
Measles	1	0	0	0
Whooping cough	0	0	0	0
Influenza	2	0	0	0
Bubonic plague	0	0	0	0
Beriberi	0	0	0	0
Beriberi, infantile	5	2	5	2
Pulmonary tuberculosis	18	9	13	1
Tuberculosis of all forms	3	0	3	0
Encephalitis lethargica	2	1	0	0

[b] Include one permanent residence unknown.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JANUARY, 1923

Sera and vaccines	On hand January 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	532,000	....	532,000	265,000	267,000
Anti-dysenteric serum (ampoules)	50	....	50	3	47
Anti-tetanic serum (units)	....	700,000	700,000	700,000	....
Cholera vaccine (c.c.)	4,460	11,990	16,450	11,700	4,750
Dried vaccine virus (units)	....	32,000	32,000	30,650	1,350
Fresh vaccine virus (units)	113,000	150,000	263,000	154,100	108,900
Gonococcus vaccine (ampoules)	....	50	50	50	....
Mixed cholera-typhoid vaccine (c.c.)	1,780	44,500	46,280	41,570	4,710
Normal horse serum (ampoules)	....	50	50	50	....
Typhoid vaccine (c.c.)	9,830	15,000	24,830	11,790	13,040

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 to 4 years		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	1,108	248	18	71	91	5	101	324	210
No. 2, Meisic	3,487	166	5	81	68	....	22	247	95
No. 4, Sampaloc	3,263	204	3	90	210	....	....	294	213
No. 5, Tondo	3,421	335	20	211	123	....	....	546	143
No. 6, Paco	589	157	8	148	163	....	....	305	171
Total	11,868	1,110	54	601	655	5	123	1,716	832

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1923

See consolidated table of Mixed Vaccinations in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1923

See consolidated table of Mixed Vaccinations in the City of Manila.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1923

Districts.	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	303	149	93	64	....	....
No. 2, Meisic	332	44	151	14	218	1
No. 4, Sampaloc	180	36	53	11	38	10
No. 5, Tondo	369	25	357	25	469	36
No. 6, Paco	817	667	364	266	175	119
Epidemiology section	1,391	147	789	65	3	2
Total	3,392	1,068	1,807	445	903	168

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	103	81	27	32	....	....	636	216	....
No. 2, Meisic	334	36	76	5	334	....	746	246	553
No. 4, Sampaloc	204	36	64	15	50	19	456	143	117
No. 5, Tondo	462	59	478	96	597	158	915	956	1,260
No. 6, Paco	1,311	744	569	333	272	146	3,539	1,532	712
Epidemiology section	981	222	674	134	1	4	2,741	1,662	10
Total	3,395	1,178	1,888	615	1,254	327	9,033	4,755	2,652

NOTE.—A means adult; C, children.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Vaccinations	Inspections	Positives	Negatives
Bataan	452	449	309	140
Batangas	12,205	11,169	5,729	5,440
Bohol	2,878	2,386	1,647	739
Bukidnon	3,674	2,706	1,965	741
Catanduanes	1,395	847	271	576
Ilocos Norte	1,500	1,382	749	633
Ilocos Sur	1,301	1,154	754	400
Iloilo	3,642	2,000	1,620	380
Laguna	2,044	1,661	1,062	599
La Union	1,658	1,111	305	806
Nueva Ecija	1,013	885	635	250
Nueva Vizcaya	412	380	284	96
Pampanga	1,557	895	608	287
Tarlac	12,492	8,327	5,207	3,120
Total	46,223	35,352	21,145	14,207

[1] Compilation of reports received. Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Cebu	161	66	151	26	....	....
Total	161	66	151	26	....	....

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Cebu	100	60	81	15	....	....	387	273	....
Total	100	60	81	15	....	....	387	273	....

[1] Compilation of reports received. Other reports not yet received.

NOTE:—A means adult; C, children.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Pampanga	216	154	181	80	104	56
Total	216	154	181	80	104	56

[1] Compilation of reports received. Other reports not yet received.

NOTE:—A means adult; C, children.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES FOR THE YEAR 1923[1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Pampanga	214	144	139	99	108	63	728	499	331
Total	214	144	139	99	108	63	728	499	331

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Ilocos Norte	108	187	124	45	....	....
Lanao	40	15	5	8	....	....
Marinduque	32	....	....	....	....	....
Pampanga	164	70	71	28	....	....
Total	344	272	200	81	....	....

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Ilocos Norte	73	150	26	45	....	....	518	240	....
Lanao	3	1	3	....	....	....	59	16	....
Marinduque	32	....	....	....	....	....	64	....	....
Pampanga	177	73	72	36	....	....	484	207	....
Total	285	224	101	81	....	....	1,125	463	....

[1] Compilations of reports received.

Other reports not yet received. NOTE:—A means adult; C, children.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF JANUARY, 1923

No case, no death reported during the month.

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF JANUARY, 1923

No case, no death reported during the month.

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY OF MANILA, DURING THE MONTH OF JANUARY, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending, December, 1922:						
Minor	26		19	33	16	94
Sewer	12	37	19	4	3	75
Vacating	4	13	9		9	35
Filling	6	2	12	10	6	36
Total	48	52	59	47	34	240
Orders issued during the month:						
Minor	7	15	5		3	30
Sewer		2		1		3
Vacating	4	1				5
Filling			2	1		3
Total	11	18	7	2	3	41
Grand total	59	70	66	49	37	281
Orders completed during the month:						
Minor	7	12	7	3	4	33
Sewer			1			1
Vacating	2		2			4
Filling	1			2		3
Total	10	12	10	5	4	41
Orders cancelled during the month:						
Minor	1					1
Sewer	1					1
Vacating						
Filling				4	1	5
Total	2			4	1	7
Orders pending, January, 1923:						
Minor	25	3	17	30	15	90
Sewer	11	39	18	5	3	76
Vacating	6	14	7		9	36
Filling	5	2	14	5	5	31
Total	47	58	56	40	32	233
Strong materials, plans approved:						
New building including additions and alterations	24	11	30	50	14	129
Permits for minor building constructions:						
Approved	14	12	26	31	16	99
Disapproved		1	1	8	2	12
New buildings completed	7	4	17	22	6	56
Light and mixed material construction:						
Permits approved			26	6	7	39
Permits disapproved					3	3
Total number of building projects passed upon	45	28	100	117	48	338
Prosecutions:						
Convictions						
Dismissals						
Amount of fines						
Plumbing permits issued	24	33	29	32	15	133
Plumbing projects completed	18	25	25	38	12	118
Premises connected to the Sanitary Sewer to December 31, 1922	1,631	2,811	1,023	542	403	6,410
Premises connected during the month	8	6	3	3	4	24
Total	1,639	2,817	1,026	545	407	6,434

Intramuros includes Ermita and Malate.
Meisic includes Sta. Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Sta. Mesa.
Paco includes Pandacan and Sta. Ana.

DEC 26 1923

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III FEBRUARY, 1923 No. 2

The keystone of a nation's progress is sanitation and education

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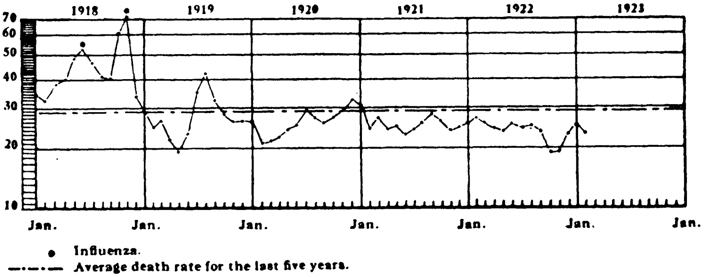

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III FEBRUARY, 1923 No. 2

FINDINGS ON THE MALARIA INVESTIGATION WITHIN THE FOUR SELECTED ZONES IN LAGUNA PROVINCE

By R. G. PADUA

Philippine Health Service

INTRODUCTION

In a previous communication (Padua, R. G., and Tiedeman, W. D.—"Preliminary Report on the Malaria Situation in the Province of Laguna," submitted on May 2, 1922, to the Director of Health), the intensive campaign, among other things, with a view to adjust the approximate malarial indices in selected portions of the province, has been proposed. Therefore, upon the joint approval of Dr. V. G. Heiser and the Director of Health, four representative sections had been zonified, viz.: (1) the *población* of Magdalena, representing a highland town with ditches and canals, and far from the coast; (2) the *barrio* of San Juan, of the municipality of Longos, about two kilometers from the bay but with street ditches and a small stream, and partly surrounded by rice-paddies; (3) the *barrio* of Linga, of the municipality of Pila, adjacent to the bay; and (4) the *barrio* of Masiit, of the municipality of Calawan, as an example of a lowland section with street canals and entirely surrounded by extensive rice-fields. The specific and topographical description of these places will be better given by the Sanitary Engineer, Mr. W. D. Tiedeman, in his report.

This joint intensive campaign, conducted by the Philippine Health Service and Rockefeller Foundation, lasted from May 17, 1922, to August 12, 1922. By it the problem was to be attacked from two angles, namely, the human and the mosquito. The present report covers only the work done by the writer on the human side.

EPIDEMIOLOGICAL SURVEY

COLLECTION OF MATERIALS

FIELD INSPECTION

The field survey, formerly done in the preliminary investigating, was supplemented by subsequent similar inspections. The latter mainly consisted in house-to-house visits to determine the sanitary condition of the dwelling, the economic status of the family, and to make the necessary physical examination on the inmates.

HOUSE VISITS

There were visited 204 houses in Magdalena, 104 in San Juan, 42 in Linga, and 37 in Masiit. Tabulated statements regarding (1) the sanitary condition, and (2) the economic status are shown below:

TABLE I.—*Percentage of houses under each group in the four selected places*

Sanitary condition	Magdalena (number visited, 204)	San Juan (number visited, 104)	(Number visited, 42)	(Number visited, 37)	Total or Average (number visited, 387)
Very poor	0	4.81	9.52	0	2.32
Poor	5.88	39.42	50.00	94.59	28.16
Fair	69.12	52.88	28.57	5.41	54.26
Good	24.02	2.88	11.90	0	14.73
Very good	0.98	0	0	0	0.52

TABLE II.—*Percentage of families under each group within the zones of investigation*

Economic status	Magdalena (number visited, 204)	San Juan (number visited, 104)	Linga (number visited, 42)	Masiit (number visited, 37)	Total or Average (number visited, 387)
Very poor	0.98	1.92	61.90	.0	7.75
Poor	44.61	60.58	28.57	97.30	52.20
Moderate	27.94	14.42	9.52	2.70	19.90
Well-to-do	26.47	23.08	.0	.0	20.16

It may be deduced, therefore, that except in Linga and Masiit where conditions were poor, a majority of the inhabited dwellings were fairly sanitary; on the other hand, about 52.20 per cent of the families in the investigated areas were economically poor.

CANVASSED POPULATION

Complete physical examination was made on almost all the inhabitants, but more stress was laid on the determination of the consistency and approximate size of the spleen in centimeters below the costal margin along the left mid-clavincular or anterior-axillary lines depending upon where the organ was palpable or showed the longest measurement. The size of the liver was also noted; in fact, other associated pathological conditions were put on record. Thick and thin blood preparations were taken from the lobe of the ear for the examination of malarial parasite. The hæmoglobin percentage was also estimated. In brief, there had been originally 2,267 apparently healthy persons examined; of whom, 1,398 or 61.67 per cent were adults and 869 or 38.33 per cent children below 15 years of age.

TABLE III.—*Number of original examinations made in the four selected sections of the province*

Places	Males	Females	Total	15 years and above	Below 15 years old
Magdalena	611	614	1,225	770	455
San Juan	317	356	673	403	270
Linga	115	124	239	135	104
Masiit	69	61	130	90	40
Total	1,112	1,155	2,267	1,398	869

The inhabitants were almost exclusively Filipinos; there were relatively so few Chinese and other foreigners in the author's record that statistical results will not perhaps be materially affected by their number. They all belong to various strata of life, culture, and civilization. As municipal and rural people, they have been subjected to the influences of the locality and instincts of their own kind. To say the least, a relatively small number of them, and those belonging to the higher class, use mosquito nets properly during the night time.

AUTOPSIES

Where deaths occurred in any municipality of the province, especially if due to malaria, attempts were made to urge the families of the diseased to permit the autopsy. Against extreme difficulties and opposition, the writer could only perform 14 such autopsies in the field; and altho in five cases death was due to malaria, yet the rest likewise presented certain lesions referable to previous attacks.

STATISTICAL RESULTS

SPLENIC AND PARASITIC INDICES

It has been ascertained that, of the total population originally examined, an average of 62.15 per cent had enlarged spleen and that 7.94 per cent were parasite-positives; thus:

TABLE IV.—*Percentage[1] of enlarged spleen and parasite-positives among those physically examined*

Groups	Magdalena (number examined, 1,225)	San Juan (number examined, 673)	Linga (number examined, 239)	Masiit (number examined, 130)	Total or average (number examined, 2,267)
Enlarged spleen	56.65	74.29	40.58	90.77	**62.15**
Parasite-positive	9.47	4.61	1.26	23.08	7.94

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[1] Based on the original figure, excluding absentees.

The next two tables show the percentage frequency of parasite-positives and parasite-negatives among cases of enlarged and non-palpable spleens, and vice versa:

TABLE V.—*Percentage of parasite-positives and parasite-negatives among enlarged and non-palpable spleens*

Parasite	Magdalena			San Juan			Linga			Masiit			Grand total or average		
	Spleen			Spleen			Spleen			Spleen			Spleen		
	Enlarged (number, 703)	Not enlarged (number, 527)	Total or average (number, 1,230)	Enlarged (number, 512)	Not enlarged (number, 171)	Total or average (number, 683)	Enlarged (number, 134)	Not enlarged (number, 198)	Total or average (number, 332)	Enlarged (number, 118)	Not enlarged (number, 12)	Total or average (number, 130)	Enlarged (number, 1,467)	Not enlarged (number, 908)	Total or average (number, 2,375)
Positive	11.38	6.64	9.35	4.69	1.75	3.95	1.49	3.03	2.41	22.88	25.00	23.08	9.07	5.18	7.58
Negative	88.62	93.36	90.65	95.31	98.24	96.05	98.51	96.97	97.59	77.12	75.00	76.92	90.93	94.82	92.42

TABLE VI.—*Frequency in percentage of enlarged and non-palpable spleens among parasite-positives and parasite-negatives*

Spleen	Magdalena			San Juan			Linga		
	Parasite		Total or average (number, 1,230)	Parasite		Total or average (number, 683)	Parasite		Total or average (number, 332)
	Positive (number, 115)	Negative (number, 1,115)		Positive (number, 27)	Negative (number, 656)		Positive (number, 8)	Negative (number, 324)	
Enlarged	69.57	55.87	57.15	88.89	74.39	74.96	25.00	40.74	40.36
Not enlarged	30.43	44.13	42.85	11.11	25.61	25.04	75.00	59.26	59.64

Spleen	Masiit			Grand total or average		
	Parasite		Total or average (number, 130)	Parasite		Total or average (number, 2,375)
	Positive (number, 30)	Negative (number, 100)		Positive (number, 180)	Negative (number, 2,195)	
Enlarged	90.00	91.00	90.77	73.89	60.77	61.77
Not enlarged	10.00	9.00	9.23	26.11	39.23	38.23

NOTE.—These tables include those who, at the time of house visits, were absent.

It is, therefore, seen that, in brief, parasite-positives among cases of enlarged spleens in Magdalena occurred in 11.38 per cent, in San Juan 4.69 per cent, in Linga 1.49 per cent, and in Masiit 22.88 per cent, giving on the whole an average of 9.07 per cent. On the other hand, of those in which the organ could not be palpated, the plasmodium parasite was found in 6.64 per cent in Magdalena, 1.75 per cent in San Juan, 3.03 per cent in Linga, and 25.00 per cent in Masiit, with an average of 5.18 per cent in the four places. In other words, the frequency of occurrence of plasmodium-carriers among those without palpable spleen appears to be more than one-half that among individuals with appreciable hypertrophy of the organ.

In Table VI, it is likewise observed that, of the total parasite-positives, an average of 73.89 per cent had enlarged spleen while 26.11 per cent did not present splenic hypertrophy. It is noteworthy that the percentage proportion of enlarged spleens among malaria-carriers was relatively more than that of non-palpable spleens in all except in Linga, where the frequency of splenic enlargement among those harboring the parasite in the peripheral circulation was 25 per cent of the latter among cases in which the organ could not be felt below the costal arch.

DEGREE OF ENLARGEMENT AND CONSISTENCY

Of 1,466 enlarged spleens, 886 or 60.44 per cent had extended downward and anteriorly to the left mid-clavicular lines (some had passed over and even to the right of the mid-aternal line), while 580 or 39.56 per cent had grown downward becoming thus palpable in the left anterior-axillary line. The appreciation of the consistency of the enlarged organ, altho arbitrary, has revealed a percentage proportion of 66.03 per cent for soft or fairly hard spleens, 32.13 per cent for the hard, and 1.84 per cent for the very hard. A more specific statement regarding their frequency among cases in which the organ was palpable along the mammary and anterior-axiliary lines, in all of the places concerned, is indicated below:

TABLE VII.—*Percentage of fairly hard, hard, and very hard spleens among those felt in the mammary and anterior-axillary lines*

Consistency of spleen	Magdalena		San Juan		Linga		Masiit		Total or average	
	Mid-clav. (number, 444)	Ant.-axil. (number, 259)	Mid-clav. (number, 295)	Ant.-axil. (number, 217)	Mid-clav. (number, 80)	Ant.-axil. (number, 53)	Mid-clav. (number, 67)	Ant.-axil- (number, 51)	Mid-clav. (number, 886)	Ant.-axil. (number, 580)
Fairly hard	55.18	78.76	62.37	75.58	91.25	77.36	44.78	52.94	60.04	75.17
Hard	43.02	20.46	36.27	24.42	8.75	22.64	41.79	39.22	37.58	23.79
Very hard	1.80	0.77	1.36	0	0	0	13.43	7.84	2.37	1.03

The enlargement of the organ is not only confined along the anterior-posterior axis. In fact, its presence is clinically detected by the palpating fingers below the costal margin. In our series, such measurements range from "barely palpable" to 25 centimeters below the costal arch. But, regardless of whether or not the organ was measured along the mid-clavicular or anterior-axillary lines, there were, of 1,466 cases of hypertrophied spleens, 1,131 or 77.15 per cent with measurement shorter than 6 centimeters below the arch. A large proportion of the cases in Magdalena and San Juan fell under the group 1 to 5 centimeters below the costal margin. On the other hand, there were relatively more cases with barely palpable spleens in Linga, while in Masiit 42.37 per cent occurred under the group of 6 to 10 centimeters, thus:

TABLE VIII.—*Frequency in percentage of cases under each group of downward (enlargement) measurement in the investigated areas and in the total or average*

Splenic measurement below costal margin	Magdalena (number, 703)	San Juan (number, 512)	Linga (number, 133)	Masiit (number, 118)	Total or average (number, 1,466)
Barely palpable	10.53	36.52	53.38	11.02	23.53
1-5 cm., inclusive	58.75	54.30	45.86	28.81	53.62
6-10 cm., inclusive	23.90	8.59	0.75	42.37	17.94
11-15 cm., inclusive	5.12	0.39	0	15.25	3.82
16-20 cm., inclusive	1.56	0.20	0	2.54	1.02
21-25 cm., inclusive	0.14	0	0	0	0.07

And the next table shows the percentage proportion of cases under different groups of splenic measurements in each of the four investigated localities as compared with the average:

TABLE IX.—*Frequency in percentage of cases, under those with splenic enlargement extending to mid-clavicular and anterior-axillary lines, occurring in each of the zones of investigation*

Places	Barely palpable		1-5 cm., inclusive		6-10 cm., inclusive		11-15 cm., inclusive	
	Mid-clav. (number, 177)	Ant.-axil. (number, 168)	Mid-clav. (number, 425)	Ant.-axil. (number, 361)	Mid-clav. (number, 216)	Ant.-axil. (number, 47)	Mid-clav. (number, 53)	Ant.-axil. (number, 3)
Magdalena	22.03	20.83	51.29	54.02	65.28	57.46	66.04	33.33
San Juan	57.63	50.60	35.29	35.46	18.52	8.51	3.77	0
Limga	17.51	23.81	11.29	3.60	0.46	0	0	0
Masiit	2.82	4.76	2.12	6.92	15.74	34.04	30.19	66.67

Places	16-20 cm., inclusive		21-25 cm., inclusive		Total or average	
	Mid-clav. (number, 15)	Ant.-axil. (number, 0)	Mid-clav. (number, 0)	Ant.-axil. (number, 1)	Mid-clav. (number, 886)	Ant.-axil. (number, 580)
Magdalena	73.33	0	0	100	50.11	44.66
San Juan	6.67	0	0	0	33.30	37.41
Linga	0	0	0	0	9.03	9.14
Masiit	20.00	0	0	0	7.56	8.79

SEX AND AGE INCIDENCE

Cases of enlarged spleen and of parasite-positives among the male and female population occurred in almost equal proportion. Thus, of the total 1,138 males and 1,154 females examined, 739 and 722 or 64.94 per cent and 62.56 per cent, respectively, had enlarged spleen; and of the former, parasite-carriers occurred in the proportion of 7.38 per cent and 7.71 per cent, respectively, for the male and female inhabitants. Similary, cases of parasite-positives among those with splenic enlargement occurred in 8.68 per cent for the males and 8.72 per cent for the females.

Of 2,368 cases, 953 or 40.24 per cent were persons 15 years old and less. Of the latter, i. e., the younger population, 732 or 76.81 per cent had palpable spleens; while of the 1,415 adults, 732 or 51.73 per cent presented a definite enlargement of the organ. And, of 1,464 cases of enlarged spleen, 50 per cent were individuals of 15 years of age and less; while of 904 cases without palpable spleens, 683 or 75.55 per cent were of the adult population.

Again, of 1,464 cases of palpable spleens, 33.81 per cent and 24.66 per cent, respectively, occurred in the first and second decades, against 15.38 per cent and 18.14 per cent in those in which the organ was not palpable. On the other hand, a relatively larger proportion of the non-palpable spleens occurred in the third and fifth decades of life. The occurrence of palpable and non-palpable spleens under one year of age was almost the same, viz., 2.46 per cent and 2.43 per cent, respectively. These figures are better shown below:

TABLE X.—*Percentage distribution of palpable and non-palpable spleens under each age group within the investigated zone*

Age group	Magdalena		San Juan		Linga		Masiit		Total or average	
	Spleen palpable (number, 702)	Spleen not palpable (number, 527)	Spleen palpable (number, 511)	Spleen not palpable (number, 171)	Spleen palpable (number, 133)	Spleen not palpable (number, 194)	Spleen palpable (number, 118)	Spleen not palpable (number, 12)	Spleen palpable (number, 1,464)	Spleen not palpable (number, 904)
Less than 1 year	2.56	1.90	2.15	4.68	5.26	1.55	0	8.33	2.46	2.43
1–10 years, inclusive	34.19	13.85	31.70	16.37	47.37	19.59	25.42	0	33.81	15.38
11–20 years, inclusive	24.93	17.65	26.22	16.96	21.05	20.62	20.34	16.67	24.66	18.14
21–30 years, inclusive	14.24	22.96	13.11	21.05	11.28	25.77	19.49	8.33	14.00	23.01
31–40 years, inclusive	10.40	13.85	11.74	11.11	8.27	16.49	11.86	16.67	10.79	13.94
40 years and more	13.68	29.79	15.07	29.82	6.77	15.98	22.88	50.00	14.28	27.10

The specific rates of palpable spleens and parasite-positives among population under the 5-year-age group are seen in the following tables:

TABLE XI.—*Comparative estimate relative to frequency in percentage of palpable spleens and parasite-positives among specific population belonging to each age group in each of the investigated areas*

Age group	Magdalena		San Juan		Linga	
	Palpable spleens	Parasite-positives	Palpable spleens	Parasite-positives	Palpable spleens	Parasite-positives
Less than 1 year	64.28	3.57	57.89	0	70.00	10.00
1-5 years, inclusive	71.94	12.95	76.32	6.58	65.31	0
6-10 years, inclusive	80.46	11.49	91.23	5.26	59.62	0
11-15 years, inclusive	80.45	7.52	87.50	1.25	37.84	5.40
16-20 years, inclusive	50.37	8.15	77.11	4.82	45.16	3.22
21-25 years, inclusive	46.67	13.33	69.81	5.66	33.33	0
26-30 years, inclusive	43.56	4.95	60.00	0	14.28	5.71
31-35 years, inclusive	43.64	10.91	80.00	5.00	25.00	0
36-40 years, inclusive	53.85	5.49	71.79	10.26	26.09	8.70
40 years and more	37.94	9.10	60.16	4.69	22.50	0

Age group	Masiit		Total or average	
	Palpable spleens	Parasite-positives	Palpable spleens	Parasite-positives
Less than 1 year	0	100.00	62.07	5.17
1-5 years, inclusive	100.00	75.00	73.19	11.59
6-10 years, inclusive	100.00	33.33	81.84	8.38
11-15 years, inclusive	90.91	18.18	77.01	5.75
16-20 years, inclusive	93.33	33.33	60.61	7.95
21-25 years, inclusive	100.00	7.69	53.70	9.26
26-30 years, inclusive	90.91	0	45.18	3.55
31-35 years, inclusive	100.00	100.00	53.85	8.55
36-40 years, inclusive	85.71	00	56.89	6.59
40 years and more	81.82	12.12	46.04	7.27

In other words, of 953 cases 15 years old and less, 80 or 8.39 per cent were found parasite-positives; while on the adult population (1,415), 102 or 7.21 per cent were positive plasmodium-carriers.

TYPES OF PARASITES

Of the total 182 cases who showed the malarial parasite in their peripheral blood, 129 or 70.88 per cent were of the tertian type, 35 or 19.23 per cent were of the quartan, and 10 or 5.49 per cent of the æstivo-automnal. Only 4.40 per cent of the cases were of mixed infection, i. e., the combined tertian and quartan.

In two of the investigated areas, the percentage proportion of Plasomdium vivax has been relatively higher than any of the other types; in San Juan and Linga, on the other hand, P. malaria occurred in 51.72 per cent and 50.00 per cent of the parasite-positives, respectively, thus:

TABLE XII.—*Percentage distribution of the different types of malaria parasite*

Type of parasite	Magdalena (number, 115)	San Juan (number, 29)	Linga (number, 8)	Masiit (number, 30)	Total or average (number, 182)
P. vivax	86.09	27.59	37.50	63.33	70.88
P. malaria	9.56	51.72	50.00	16.67	19.23
P. falciparum	2.61	13.79	12.50	6.67	5.49
P. vivax and P. malaria	1.74	6.70	0	13.33	4.40

LIVER INVOLVEMENT

Of the 2,361 cases examined, 1,032 or 43.71 per cent were found with apparently enlarged liver; and of the latter, 871 or 84.40 per cent were among those with splenic enlargements against 161 or 15.60 per cent among cases without palpable spleen. Again, of those with liver hypertrophy, 73 or 7.07 per cent were parasite-positives, while of 1,329 cases without apparent liver involvement, 107 or 8.05 per cent were found plasmodium-carriers. Thus:

TABLE XIII.—*Total frequency distribution in percentage of parasite-positives and parasite-negatives among cases with both liver and splenic enlargements and among those without*

Parasite	Spleen enlarged		Spleen not enlarged		Total or average	
	Liver enlarged (number, 871)	Liver not enlarged (number 588)	Liver enlarged (number, 161)	Liver not enlarged (number, 741)	Liver enlarged (number, 1,032)	Liver not enlarged (number, 1,329)
Positive	7.69	11.22	3.73	5.53	7.07	8.05
Negative	92.31	88.78	96.27	94.47	92.93	91.95

Of 1,032 cases with liver enlargement, 747 or 72.38 per cent occurred in those in which the organ measured less than two centimeters below the right costal margin. There were only 10 or 0.94 per cent that could reach a measurement of five centimeters and more below the arch. The next table shows the frequency in percentage of liver hypertrophy under each group, of parasite-positives, and parasite-negatives among those with and without palpable spleens:

TABLE XIV.—*Percentage distribution of cases belonging to the different groups of liver measurements, among parasite-positives and parasite-negatives, with and without enlarged spleens*

Liver measurement below costal margin	Spleen enlarged		Spleen not enlarged		Total or average	
	Parasite + (number, 67)	Parasite — (number, 804)	Parasite + (number, 6)	Parasite — (number, 155)	Parasite + (number, 73)	Parasite — (number, 959)
Below 1 cm	28.36	42.29	0	40.64	26.03	42.02
1 to under 2 cm	37.31	29.60	66.67	37.42	39.73	30.86
2 to under 3 cm	16.42	18.28	33.33	13.55	17.81	17.52
3 to under 4 cm	7.46	6.47	0	5.16	6.85	6.26
4 to under 5 cm	8.96	2.36	0	2.58	8.22	2.40
5 cm. and over	1.49	1.00	0	0.64	1.37	0.94

Altho on the whole the percentage distribution of the cases with liver enlargement apparently decreases with the increase in the size of the organ, yet the dangers of the former as being prolific sources of infection seem to increase with the extent of the hepatic involvement, thus:

TABLE XV.—*Specific rate in per cent of parasite-positives based on the specific number of cases under each group of liver enlargement*

Liver measurement below costal margin	Spleen palpable	Spleen not palpable	Total or average
Below 1 cm	5.29	0	4.50
1 to under 2 cm	9.50	6.45	8.92
2 to under 3 cm	6.96	8.70	7.18
3 to under 4 cm	8.77	0	7.69
4 to under 5 cm	24.00	0	20.69
5 cm. and over	11.11	0	10.00
Average	7.69	3.73	7.07

The frequency of enlarged liver cases among the infant population was relatively smaller in proportion to that of the adult. Thus, of 1,108 cases of the former, 29 or 2.62 per cent were children less than a year old. However, the percentage proportion of children from one to 15 years, inclusive, and that of the adults were almost the same, viz.: 48.92 per cent and 48.46 per cent, respectively. These figures are better appreciated in the following table.

TABLE XVI.—*Percentage of cases with hepatic involvement belonging to each-group among those with and without splenic enlargement, as compared with the average*

Age groups	Enlarged liver in percentage		
	Spleen enlarged	Spleen not enlarged	Total or average
Less than 1 year	2.72	1.97	2.62
1–10 years, inclusive	38.28	24.34	36.37
11–15 years, inclusive	13.39	7.24	12.54
16 years and over	45.61	66.45	48.46

HÆMOGLOBIN PERCENTAGE

Anæmia is not an uncommon finding in cases of splenomegalies. In fact, it may become more pronounced with the enlargement of the organ and the extent of liver involvement. Based on the hæmoglobin percentage of the blood alone, there have been, in the present series, relatively more cases among the group showing hæmoglobin estimates of from 70 per cent to less than 80 per cent, i. e., 42.17 per cent of those with liver involvement and 37.30 per cent of those without; thus:

TABLE XVII.—*Frequency distribution in percentage of cases belonging to each group of hæmoglobin estimate among those with enlarged spleen and normal spleens with or without hepatic involvement*

Hæmoglobin percentage	Spleen palpable		Spleen not palpable		Total or average	
	With liver involvement (number, 893)	Without liver involvement (number, 522)	With liver involvement (number, 205)	Without liver involvement (number, 738)	With liver involvement (number, 1,098)	Without liver involvement (number, 1,260)
Less than 50 per cent	1.12	0.96	0	0	0.91	0.40
50 to less than 60 per cent	3.02	5.36	1.95	1.36	2.82	3.02
60 to less than 70 per cent	15.45	13.22	9.76	11.38	14.39	12.14
70 to less than 80 per cent	44.34	40.23	32.68	35.23	42.17	37.30
80 to less than 90 per cent	27.32	30.65	44.39	36.58	30.51	34.13
90 per cent and more	8.73	9.58	11.22	15.45	9.20	13.02

In that group of individuals with the hæmoglobin estimate of 70 per cent to less than 80 per cent, there have been 44.34 per cent among splenomegalies with liver involvement against 35.23 per cent among those without appreciable lesion in both organs.

Likewise, of the total cases with hæmoglobin estimate less than 80 per cent, the percentage of parasite-positives has been relatively more than those with 80 per cent and more, regardless of whether or not the liver was involved. Thus, 8.91 of per cent of the former against 6.88 per cent of the latter were parasite-positives among those with hepatic enlargement and 8.26 per cent against 6.90 per cent were plasmodium-carriers among those in which the organ was not palpable. And, of those less than 80 per cent, parasite-positives occurred in 9.81 per cent among the splenomegalies with liver involvement against 7.69 per cent in when the latter organ was not palpable. On the other hand, there have been among cases without splenic enlargement under this group 3.30 per cent with liver involvement against 8.76 per cent among those without appreciable increase in the size of the latter organ. Thus:

TABLE XVIII.—*Percentage of parasite-positives and parasite-negatives among those with hæmoglobin estimates of less than 80 per cent on one hand and 80 per cent and more on the other in the groups of palpable and non-palpable spleens with hepatic involvement*

Parasite	Spleen palpable		Spleen not palpable		Total or average	
	Less than 80 per cent (number, 571)	80 per cent and more (number, 322)	Less than 80 per cent (number, 91)	80 per cent and more (number, 114)	Less than 80 per cent (number, 662)	80 per cent and more (number, 436)
Positive	9.81	7.76	3.30	4.39	8.91	6.88
Negative	90.19	92.24	96.70	95.61	91.09	93.12

TABLE XIX.—*Frequency in percentage of parasite-positives and parasite-negatives among those less than 80 per cent and 80 per cent and more in groups of palpable and non-palpable spleens without hepatic involvement*

Parasite	Spleen palpable		Spleen not palpable		Total or average	
	Less than 80 per cent (number, 312)	80 per cent and more (number, 210)	Less than 80 per cent (number, 354)	80 per cent and more (number, 384)	Less than 80 per cent (number, 666)	80 per cent and more (number, 594)
Positive	7.69	10.48	8.76	4.95	8.26	6.90
Negative	92.31	89.52	91.24	95.05	91.74	93.10

The relation of anæmia to splenic enlargements, with or without hepatic involvements among cases in whom the malarial parasite became demonstrable, is summarized in the table below:

TABLE XX.—*Percentage of cases among parasite-positives with hæmoglobin estimate of less than 80 per cent and 80 per cent and more in the groups of palpable and non-palpable spleens*

Groups of hæmoglobin percentage	Spleen enlarged		Spleen not enlarged		Total or average	
	With hepatic involvement (number, 81)	Without hepatic involvement (number, 46)	With hepatic involvement (number, 8)	Without hepatic involvement (number, 50)	With hepatic involvement (number, 89)	Without hepatic involvement (number, 96)
Under 80 per cent	69.14	52.17	37.50	62.00	66.29	57.29
80 per cent and over	30.86	47.83	62.50	38.00	33.71	42.71

In other words, of 81 parasite-positives with enlarged spleen associated with liver enlargement, 69.14 per cent occurred among those less than 80 per cent against 30.86 per cent of those more than 80 per cent. On the other hand, of 50 cases without apparent lesions of both organs but yet positive for malaria, 62 per cent were less than 80 per cent against 38 per cent among individuals with hæmoglobin estimate of 80 per cent and more.

OTHER ASSOCIATED CONDITIONS

The disease "Malaria," therefore, may be a potent factor in reducing the hæmoglobin contents of the blood. Yet, other pathological lesions, not infrequently concomitant with splenic hypertrophy, may, likewise, be in part instrumental in bringing down the normal estimate. Such conditions are not uncommonly those of the lungs in the form of pulmonary tuberculosis, of the cardio-vascular and cardio-renal systems, etc. Bulging of the abdomen especially among children have not been unusual; in fact, actual ascitis have been observed in many of the cases. In this connection, it may be stated that, outside of liver involvements, of 2,539 examinations, 946 or 40.10 per cent were associated mostly with diseases of the lungs and heart. And of 1,308 cases of enlarged spleen, such diseases had affected 439 individuals or 33.56 per cent; and of 1,051 cases without apparent enlargement, 507 or 48.24 per cent had either pulmonary, or heart lesion, or both.

ECONOMIC STATUS

The question of whether or not malaria is a disease of the economically poor is now considered. The next two tables show the percentage proportion of cases of enlarged and normal spleens among the poor, moderate, and well-to-do, and vice versa:

TABLE XXI.—*Percentage frequency of enlarged and non-palpable spleen among the poor, moderately rich, well-to-do, as compared with the total*

Spleen	Poor (number, 1,187)	Moderate (number, 643)	Well-to-do (number, 545)	Total average (number, 2,875)
Enlarged	63.60	66.56	52.11	61.77
Not enlarged	36.39	33.44	47.89	38.23

TABLE XXII.—*Percentage proportion of poor, moderately rich, and well-to-do individuals, among cases with enlarged and apparently normal spleens*

Economic status	Spleen enlarged (number, 1,467)	Spleen not palpable (number, 908)	Total or average (number, 2,375)
Poor	51.46	47.58	49.98
Moderate	29.18	23.68	27.07
Well-to-do	19.36	28.74	22.95

Of those with moderate means, there have been proportionally more cases of splenic enlargements developing than among the poor, it being 66.56 per cent of the former against 63.60 per cent of the latter. On the other hand, of 1,467 cases of enlarged spleen, 755 or 51.46 per cent occurred among the poor while 428 or 29.18 per cent occurred among the moderately-rich. The figures do not seem to indicate that, at least as far as the present series are concerned, the disease has been especially more prevalent among the poor. Moreover, of 284 well-to-do individuals in whom the spleen was palpable, 11.27 per cent harbored the parasite in the peripheral blood; while of 755 splanomegaly cases belonging to the poor class, only 9.80 per cent were parasite-positives, thus:

TABLE XXIII.—*Parasite-positives and parasite-negatives in percentage among cases of the poor, moderately-rich, and well-to-do classes under groups of enlarged and apparently normal spleens*

Parasite	Spleen enlarged			Spleen not enlarged			Total or average		
	Poor (number, 755)	Moderate (number, 428)	Well-to-do (number, 284)	Poor (number, 432)	Moderate (number, 215)	Well-to-do (number, 261)	Poor (number, 1,187)	Moderate (number, 643)	Well-to-do (number, 545)
Positive	9.80	6.31	11.27	5.56	4.65	4.98	8.26	5.75	8.26
Negative	90.20	93.69	88.73	94.44	95.35	95.02	91.74	94.24	91.74

Malaria-carriers may, therefore, exist as proportionately numerous among the rich as among the poor. At least, in the present series, of the (total) poor and the (total) well-to-do population, the average proportion of parasite-positives was incidentally equal, viz.: 8.26 per cent, and of those with moderate means of living, 5.75 per cent.

FIRST MALARIAL ATTACK

The history of the first malarial attack has been inquired into, but the difficulty of ascertaining the exact date on the part of the inhabitants made it impracticable to continue this line of investigation. It has been found, however, that a great majority of the cases under the present study had contracted the first attack in their respective municipality and "barrio." Very few cases had developed the disease in other localities outside their place of residence, thus:

TABLE XXIV.—*Percentage of cases among parasite-positives and parasite-negatives belonging to groups who contracted malaria in the place of residence and those otherwise*

Source of infection	Parasite + (number, 182)	Parasite — (number, 2,194)	Total or average (number 2,376)
Locality	87.91	90.34	90.16
Outside source	11.54	9.12	9.30
Unknown source	0.55	0.55	0.55

NOTE.—"Parasite +" means parasite-positive; and "parasite —" means parasite-negative.

Similarly, the lack of available and accurate history records in the various parts of the province has been a drawback. Heretofore, the diagnosis of the cases and deaths from malaria as well as from other causes have been, not infrequently, made by sanitary inspectors and municipal secretaries. Until such a condition is remedied, any attempt to make subsequent studies on the endemic indices or the like of the disease may become fruitless and perhaps erroneous.

REMEDIAL CAMPAIGN

The present survey has been made primarily to find out the extent of plasmodium infection in the four selected areas. But to gain the consent of the people for physical examination, quinine has been freely issued as a "bait for the fish" (Padua & Tiedeman—loc. cit.). Intensive treatments and experimental studies were begun about the middle of June, 1922, on cases with enlarged spleens, the results of which will perhaps be shown in a later paper. Moreover, other data are still being expected to complete this part of the investigation.

But for practical purposes and from a public health point of view, the judicious employment and administration of quinine, either intravenously as has been done during the progress of the campaign or otherwise, will minimize the potentiality of the actual cases and carrier as fertile sources of infection, reduce the morbidity and mortality from malaria, and protect the public as a whole from the evil effects of the disease. Both experiments and experience have convincingly demonstrated the fact that, even working on the human side alone, the completion of the life-cycle of the organism may be interrupted. Such being the case, the chances of dissemination are obviously lessened; and, if the work is adequately continued and generalized, the hope of reducing the morbidity and mortality rates from the disease to the minimum may become in the end a reality.

GENERAL RÉSUMÉ

1. The first intensive malaria investigation in the Province of Laguna, conducted jointly by the Philippine Health Service and the Rockefeller Foundation, was made in four selected typical localities, viz.: (1) Poblacion of Magdalena, (2) Barrio of San Juan, Longos, (3) Barrio of Linga, Pila, and (4) Barrio of Masiit, Calawan.

2. There were altogether 387 houses visited, most of which were fairly sanitary. And of 387 families canvassed, 52.20 per cent belonged to the poor class. Originally, there were 2,267 persons examined, among whom 61.67 per cent were adults.

3. Of the 14 autopsies, five or 35.71 per cent were deaths due to malaria, but the rest, altho due to various other causes, yet likewise presented certain post-malarial lesions.

4. Of the total population originally examined, 62.15 per cent had splenic enlargements and 7.94 per cent were parasite-positives.

5. Of 1,467 cases with enlarged spleen, 9.07 per cent were plasmodium-carriers. On the other hand, of 908 cases in which the organ was not palpable, 5.18 per cent were parasite-positives.

6. Similarly, of 180 cases in which the plasmodium organism was found in the peripheral blood, 73.89 per cent had palpable spleen; and, of 2,195 parasite-negatives, 60.77 per cent presented splenic enlargements.

7. Of 1,466 enlarged spleens, 60.44 per cent had extended downward and anteriorly to the left midclavicular line while 39.56 per cent became palpable in the left anterior-axillary line. And of the palpable spleens, 66.03 per cent were soft or fairly hard, 32.13 per cent hard, and 1.84 per cent very hard. Again, of the enlarged spleens, 77.15 per cent measured less than six centimeters below the costal arch, and one or 0.07 per cent has grown as far down as the brim of the pelvis.

8. The percentage distribution of splenic enlargements and of parasite-positives among the male population was almost equal to that among the female.

9. Of 935 individuals 15 years old and less, 76.81 per cent had palpable spleen; while of 1,415 adults, 51.73 per cent. Palpable and non-palpable spleens occurred, among those less than a year of age, in the proportion of 2.46 per cent and 2.43 per cent, respectively.

10. Parasite-positives occurred in 8.39 per cent of 953 cases 15 years old and less, and 7.21 per cent of 1,415 adults.

11. Of 182 malaria-carriers, 70.88 per cent harbored the P. vivax, 19.23 per cent the P. malaria, 5.49 per cent P. falciparum, and 4.40 per cent the mixed infection.

12. Of 1,032 cases with hepatic enlargement, 84.40 per cent were among those with enlarged spleen, and 7.07 per cent were parasite-positives. On the other hand, of 1,329 cases without liver involvement, 8.05 per cent were found to be malaria-carriers.

13. Of the total cases with hæmoglobin estimate of less than 80 per cent and of those with 80 per cent and more, parasite-positives occurred in the proportion of 8.91 per cent and 6.88 per cent, respectively, among those with hepatic involvement

against 8.26 per cent and 6.90 per cent among those in which the latter organ was not palpable. And of 81 enlarged spleens with hepatic involvement, 69.14 per cent occurred among those whose hæmoglobin content was less than 80 per cent; while of 50 cases in which both organs were not apparently affected, 38 per cent were among persons with hæmoglobin estimate of more than 80 per cent.

14. Other concomitant lesions, such as pulmonary tuberculosis, etc., might have been in part instrumental in reducing the normal hæmoglobin estimate. Thus, of 1,308 examinations, 33.56 per cent were found in association with splenic enlargements, with diseases of the lungs and heart; while of 1,051 cases with normal spleens, 48.24 per cent had either pulmonary tuberculosis, or evidences of cardio-vascular lesions, or both.

15. Malaria-carriers have been just as prevalent proportionally among the rich as among the poor. And of 284 individuals belonging to the well-to-do or very rich class in whom the spleen was palpable, 11.27 per cent harbored the plasmodium organism; while of 755 splenomegalies belonging to the poor, only 9.80 per cent were parasite-positives.

16. The great majority of the cases under study had contracted the first malarial attack in their respective places of residence. The difficulty lay in ascertaining the date of first infection and the diagnosis of the disease at the time.

17. Remedial campaign along the human side consisted in the giving of quinine intravenously to actual fabrile cases and presumable carriers. From a public health point of view, this work should be persistently continued and extended thruout the province by local health officers.

RECOMMENDATIONS

In conclusion, it is hereby recommended that, from a purely medical (and epidemiological) view-point:

1. Every endeavor be directed to the immediate notification of all fever cases in the Province of Laguna to the nearest local health officer who should follow up and study them carefully. In fact, all cases and deaths from all causes should be accurately determined by a physician and not by a sanitary inspector or municipal secretary, and reported to the health officer.

2. Upon the diagnosis of malaria on a fever case, vigorous treatment with quinine, intravenously, intramuscularly, or *per orem* as the occasion permits, be at once instituted. Past experience has shown that, altho any form of soluble quinine may be used, yet, for the present study, quinine and urea hydrochloride by the intravenous method be preferred, the dose being

adjusted according to age and existing conditions. Caution should, however, be taken in the intravenous injection of quinine to extremely anæmic patients and to those who present a considerable average number of parasites to each microscopic field. Before starting the series of injections, the patient, if strong enough, should be purged; and before the administration of the drug, such provocative agents as adreneline hydrochloride by hypo. or amyl nitrite by inhalation, or both but at some interval, may be judiciously given.

3. *The Case Record Form,* as has been used in Magdalena, be properly filled out. Daily observation and treatment on the case be entered into. Hæmoglobin estimates be recorded before the series of injections, on the discharge of the patient, and a month after, to find out later if there has been a gain in the hæmoglobin content of the blood after quinine treatments by this method. All such "forms" be turned in, after the third hæmoglobin estimate, to the Philippine Health Service.

4. Detected malaria-carriers should be handled in the same manner as acute febrile cases until the parasites completely disappear from the peripheral circulation.

5. All deaths from malaria should be, if possible, autopsied by the District Health Officer or his duly authorized representative, and the pieces of tissues from lesioned organs, fixed in Zenker's fluid and run thru the different alcohols, be sent by mail with the protocol accurately prepared to the Philippine Health Service.

6. A general hospital in a suitable place of the province for the better treatment of cases, not only of malaria but also from all causes be, if feasible, established and with liberal support maintained.

7. Samples of anopheles mosquitoes from infected localities be sent, from time to time, to the Philippine Health Service for further classification and study.

8. Extensive and systematic public health instructions be given to the masses by health officers regarding the transmission and evil effects of malaria, the treatment of the disease, and the various modes of prevention; more emphasis to be laid on the protection afforded by the adequate use of mosquito-nets.

9. The coöperation of all government officials, provincial and municipal, including the school authorities and other social workers and agencies, be cordially and respectfully urged.

10. The District Health Officer be requested to use all his efforts and prerogatives to carry out effectively the foregoing recommendations, and to send, from time to time, to the Director

of Health, reports regarding the amount of work done and progress attained. He should also be asked to initiate other lines of studies and to conduct further scientific investigations with a view to reduce rapidly the malarial morbidity and mortality in the district.

11. After the lapse of a considerable length of time, such as one to five years, the province should again be epidemiologically investigated to check the results of the campaign.

Recommendations along entomological and engineering lines will be given by the writer's associate and co-worker, Sanitary Engineer W. D. Tiedeman of the Rockefeller Foundation.

ACKNOWLEDGMENT

Thanks are due to the District Health Officer of Laguna Province for the facilities he contributed and to his presidents of sanitary divisions, nurses, and in fact to all the provincial officials and municipal authorities, for their valuable aid and hearty support in the malaria investigations.

Respectfully submitted.

MISCELLANEOUS

PERSONAL NEWS

Dr. S. V. del Rosario, Assistant Director of Health, has been designated to supervise the work of the medical officers of this Service taking special clinical and bacteriological courses in the Philippine General Hospital, Bureau of Science, San Lazaro Hospital, and College of Medicine and Surgery. He shall also see that the whole program prepared by this Service covering the scope of courses is faithfully carried out.

Senior Surgeon Manuel V. Arguelles has been directed to assist Doctor Rosario in this work.

CIRCULAR TO ALL DISTRICT HEALTH OFFICERS

1. In view of the reduction of appropriation for district inspectors in the Service Budget for the current year, the territorial divisions provided for in Circular S–14 and U–45 are abrogated.

2. District inspectors shall not be given fixed district assignments. They shall, however, perform their duties in the manner precribed by Circular V–12, with headquarters at Manila, and shall inspect such localities as the requirements of the service may dictate with a view to proper supervision of the work of sanitation and public health administration therein.

3. This circular to take effect February 1st.

Dr. Teofilo Corpus, District Health Officier of Nueva Ecija, has been directed to proceed immediately to Floridablanca, Pampanga, in compliance with the provisions of Paragraph 26, Special Order No. 1, and to transfer his office to Dr. Vicente Lopez, President, Third Sanitary Division of Nueva Ecija, who will assume temporarily the duties of District Health Officer of Nueva Ecija.

In connection with the malaria campaign in the town of Floridablanca, Pampanga, the following assignments have been made:

Dr. Charles N. Leach of the Rockefeller Foundation, supervisor; Dr. Teofilo Corpus, Director of the Medical Work; Dr. Fernando Gonzalez-Sioco, District Health Officer of Pampanga, Assistant Director, part time service; Dr. J. Layug, President, Fourth Sanitary Division to which the town of Floridablanca pertains, Assistant Director; Mr. W. D. Tiedeman, Sanitary Engineer of the Rockefeller Foundation, Director of the Engineering Work; and Mr. Manuel Mañosa, Sanitary Engineer, Philippine Health Service, will assist Mr. Tiedeman occasionally in the work.

The District Health Officer of Pampanga is also authorized and requested to assign for the campaign such nurses and sanitary inspectors as the directors may request. The assignments of Doctor Leach and Mr. Tiedeman are made with their own consent.

POSITION IN THE PHILIPPINE HEALTH SERVICE

One position of pharmacist in the Bontoc Hospital. Salary, ₱1,080 per annum with subsistence and quarters. Applicant must be duly licensed and with good references. See the Chief Clerk, Philippine Health Service.

BATANGAS HEALTH OFFICERS' ASSEMBLY

At the call of the District Health Officer, the provincial health officials assembled in conference at the provincial capital, the sessions lasting three full days, from February 15th to 17th. This year's conference was characterized by extended discussions on matters of public health administration resulting in the acquisition of much practical information to the benefit both of health officers and of the Service in general. Routine procedures have been subjected to careful study, and practically every phase of health work was gone over with the end in view of familarizing all concerned with its varied details. Great enthusiasm was shown by all for a greater health service, for greater individual efficiency and for simpler and duly standardized methods in public health administration.

The health officers listed below attended the conference:

Dr. M. M. Aycardo, District Health Officer, Chairman.
Dr. G. Banaag, Asst. District Health Officer, Secretary.
Dr. G. Gonzales, President, 1st Sanitary Division.
Dr. N. Villa, President, 2nd Sanitary Division.
Dr. L. Cuhi, Asst. President, 3rd Sanitary Division.
Dr. E. Castillo, President, 4th Sanitary Division.
Dr. J. Arreglado, President, 5th Sanitary Division.
Dr. A. Agoncillo, President, 6th Sanitary Division.
Dr. H. Castillo, President, 7th Sanitary Division.
Dr. V. Ramos, President, 8th Sanitary Division.
Dr. V. de las Alas, President 9th Sanitary Division.
Dr. P. Laygo, from Central Office on special detail.
Dr. J. Alberto, from Central Office on special detail.

Amongst others, resolutions covering the following subjects were adopted; greetings to insular and provincial high officials; introduction of changes in prescribed Service forms and procedures; request to Provincial Board for ampler health appropriations and for support in the adoption by municipal councils of such portions of the proposed sanitary code as are practical application to their respective jurisdictions; and votes of recognition and confidence in Doctors Aycardo and Laygo for their efforts in placing the provincial health service on a high level of efficiency.

It was not all work, however. The arid business routine of the conference was interspersed with spicy social features: dinners and banquets at the homes of Doctors Aycardo, E. Castillo, and Banaag with appropriate speeches galore and dances at the Auditorium of the local "petit" Carnival. All in all, the assembly of the year proved to be a success in the amount of work accomplished and in a stronger sprit de corps developed thereby.

Dr. Catalino Gavino, Chief, San Lazaro Hospital, Chairman, and Dr. Elias Domingo, Specialist in Mental and Nervous Diseases, and Dr. M. V.

Arguelles, Bacteriologist, members, are constituted a Board to outline a plan whereby the affiliation period of student-nurses in the San Lazaro Hospital could be made more beneficial both to the Hospital and to the student-nurses themselves. The plan should give detailed statement of the length of time each student has to stay in the various artivities of the hospital and should provide for such arrangement as could afford consecutive training to the students, as well as comprehensive knowledge of the various kind of work performed in the hospital. The three-week period of affiliation of nurses is not believed to be sufficient. The plan should, therefore, provide for the affiliation of nurses to the hospital for at least two months but not more than three months.

The plan will be submitted to the different training schools for nurses for adoption as well as to the Board of Examiners for Nurses for approval.

The Board should submit its report so that the plan may be put in effect March 1st.

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of February, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health Districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

FEBRUARY, 1923

Date.	Pressure [1] mean	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	759.83	24.4	30.9	4	17.9	9	26.9	27.2
11-20	59.49	25.9	34.0	15	19.5	11	27.5	28.0
21-28	61.39	25.0	32.9	21	19.3	27	27.7	28.4

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	79.4	83.7	6	73.9	8
11-20	76.2	78.5	16	73.8	15
21-28	70.8	76.1	23	69.0	26

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

FEBRUARY, 1923

Date.	Wind				Atmidometer (open air) [1]		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1–10	E quad.	1,424.0	179.0	8	33.6	4.3	8
11–20	S. E.	1,637.5	195.0	11	51.9	6.0	17
21–28	E quad.	1,539.5	282.5	24	43.6	6.7	21

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1–10	48 00	9 25	9	7.3	4
11–20	91 25	10 15	12	0.0	0
21–28	57 30	9 05	24	0.0	0

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[1] These values are taken from instrument mounted in the Observatory Park, 15 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	3	6	24.97
Filipinos	602	542	1,144	53.75
Spaniards	1	....	1	6.67
Other Europeans	1	....	1	11.58
Chinese	30	22	52	37.99
All others	6	4	10	59.67
Total	643	571	1,214	52.11

BIRTHS BY DISTRICTS

Health district	Legitimates			Illegitimates			Gran Total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	74	70	144	7	3	10	154	53.76
No. 2, Meisic	111	81	192	15	8	23	215	26.94
No. 4, Sampaloc	95	100	195	9	8	17	212	56.07
No. 5, Tondo	246	199	445	17	20	37	482	78.04
No. 6, Paco	67	78	145	2	4	6	151	60.53
Total	593	528	1,121	50	43	93	1,214	52.11

Number of births attended by physicians, living, 248; stillbirth, 33.
Number of births attended by midwife, living, 129; stillbirths, 1.
Number of births attended by family, living, 837; stillbirths, 27.

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	3	2	5	20.81
Filipinos	278	270	548	25.75
Spaniards	2	1	3	20.02
Other Europeans	....	....	....	....
Chinese	13	4	17	12.42
All others	7	1	8	47.74
Total and average	303	278	581	24.94

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	87	84
Divorced	....	....
Widowed	29	41
Single	243	193
Condition not stated	....	1
Total	359	319
Grand total	678	

Stillbirths	61
Number of deaths with medical attendance	335
Number of deaths without medical attendance	343

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	43	38	....	....	81
30 days to under 1 year	57	68	12	14	151
1 year to under 2 years	36	24	1	3	64
2 years to 4 years	21	11	1	....	33
5 years to 9 years	7	5	1	....	13
10 years to 14 years	5	8	3	....	16
15 years to 19 years	11	10	4	1	26
20 years to 29 years	35	34	12	9	90
30 years to 39 years	17	22	6	4	49
40 years to 49 years	16	12	8	3	39
50 years to 59 years	15	13	3	....	31
60 years to 69 years	15	13	3	5	36
70 years to 79 years	14	10	2	2	28
80 years to 89 years	7	4	....	....	11
90 years to 99 years	3	6	....	....	9
100 years and over	1	....	....	....	1
Age not stated	....	....	....	....	....
Total	303	278	56	41	678

DEATH AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Death	Annual death rate per 1,000
No. 1, Intramuros	117	40.85
No. 2, Meisic	118	14.79
No. 4, Sampaloc	96	25.39
No. 5, Tondo	284	45.98
No. 6, Paco	63	25.26
Total	678	29.10

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			8	17							1		26
4. Malaria			3	1									4
6. Measles			1	1									2
9. Diphtheria and croup			1	1									2
10. Influenza			1										1
14. Dysentery			2	1					1				4
18. Erysipelas				2		1							3
19. Other epidemic diseases				2									2
20. Purulent infection and septicæmia			2	1									3
24. Tetanus			1	1					1				3
27. Beriberi			1	1									2
27a. Beriberi, infantile			31	26					1				58
28. Tuberculosis of the lungs			44	42					1		1		88
30. Tuberculous meningitis	1		2	1						1			5
31. Abdominal tuberculosis			3	4					1				8
34. Tuberculosis of other organs			1	2									3
35. Disseminated tuberculosis				2					1				3
38. Gonococcus infection			1										1
39. Cancer and other malignant tumors of the buccal cavity			1	1									2
40. Cancer and other malignant tumors of the stomach, liver				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified	1		1	1									3
47. Acute articular rheumatism			2										2
51. Exopthalmic goitre										1			1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis		1	4	7									12
(2) Cerebro-spinal meningitis (undefined)				1					2				3
(3) Cerebro-spinal fever			1										1
64. Cerebral hæmorrhage, apoplexy			5	5									10
66. Paralysis without specified cause			2	1									3
68. Other forms of mental alienation			4	2									6
69. Epilepsy			2										2
71. Convulsions of infants (under 5 years of age)											1		1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart			4	2					2		1		9
80. Angina pectoris			1		1								2
IV. Diseases of the respiratoy system													
89. Acute bronchitis			28	23					1	1		1	54
90. Chronic bronchitis			5	7									12
91. Broncho-pneumonia			29	18									47
92. Pneumonia			5	8									13
93. Pleurisy				1							1		2
94. Pulmonary congestion, pulmonary apoplexy			1										1
95. Gangrene of the lungs			1										1
96. Asthma				1									1
V. Diseases of the digestire system													
103. Other diseases of the stomach (cancer excepted)											1		1
104. Diarrhœa and enteritis (under 2 years)			12	11					1	1			25
105. Diarrhœa and enteritis (2 years and over)			3	3									6
109. Hernias, intestinal obstructions			3										3
113. Cirrhosis of the liver			1										1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			1	1									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			3	1					1				5
120. Bright's disease			2	10	1								13
122. Other diseases of the kidneys and annexa			2										2
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				5									5
137. Puerperal septicæmia				1									1

VIII. Diseases of the skin and of the cellular tissue													
143. **Furuncle**				1									1
144. Acute abscess			1										1
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)				1									1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(3) Other congenital malformations			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			3	4							1		8
(2) Congenital debility			27	29									56
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			2	2									4
XII. Old age													
154. Senility			15	12									27
XIII. Affections caused by external causes													
155. Suicide by poison	1	1											2
167. Burns (conflagration excepted)			2										2
169. Accidental drowning				1									1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)				1									1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1	1									2
Total	3	2	278	270	2	1			13	4	7	1	581
Grand total	5		548		3				17		8		581

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			5	4					1				10
4a. Malarial cachexia				1									1
6. Measles			1										1
9. Diphtheria and croup			1										1
17. Leprosy				1									1
19. Other epidemic diseases	1		2										3
23. Rabies			1										1
24. Tetanus			6						1				7
27. Beriberi			1										1
27a. Beriberi, infantile			3	3									6
28. Tuberculosis of the lungs			8	2					1				11
35. Disseminated tuberculosis			2						1				3
40. Cancer and other malignant tumors of the stomach, liver			1										1
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1									2
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1	4									5
(2) Cerebro-spinal meningitis (undefined)			1										1
(3) Cerebro-spinal fever			1										1
64. Cerebral hæmorrhage, apoplexy				2									2
68. Other forms of mental alienation			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart		1											1
IV. Diseases of the respiratory system													
89. Acute bronchitis			3	1									4
90. Chronic bronchitis			1	1									2

91. Broncho-pneumonia			1	2									3
92. Pneumonia			1	1									2
93. Pleurisy			1										1
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			2	3									5
117. Simple peritonitis (nonpuerperal)			1	1									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1	3									4
120. Bright's diseases			1	1									2
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
136. Other accidents of labor				1									1
137. Puerperal septicæmia				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included): (3) Other congenital malformations			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema: (2) Congenital debility			1	1									2
XII. Old age													
154. Senility				1									1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined				1									1
Total	1	1	51	40					4				97
Grand total	2		91						4				97

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
9. Diphtheria					1	1
10. Influenza					1	1
18. Erysipelas					2	2
24. Tetanus					1	1
27a. Beriberi, infantile	1			7	56	64
30. Tuberculous meningitis					1	1
35. Disseminated tuberculosis					1	1
61. Simple meningitis:						
(1) Simple meningitis					6	6
71. Convulsions of infants					1	1
89. Acute bronchitis					36	36
90. Chronic bronchitis					3	3
91. Broncho-pneumonia	1				14	15
93. Pleurisy					1	1
94. Pulmonary congestion, pulmonary apoplexy			1			1
103. Other diseases of the stomach (cancer excepted)					1	1
104. Diarrhœa and enteritis					20	20
119. Acute nephritis					3	3
146. Diseases of the bones (tuberculosis excepted)					1	1
150. Congenital malformations (stillbirths not included):						
(3) Other congenital malformations				1	1	2
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	5		1		2	8
(2) Congenital debility	17	2	1	19	19	58
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy				4		4
Total	24	2	3	31	172	232

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	19,518
Number of rats caught by spring traps	4,952
Number of cage wire traps set	616
Number of rats caught by cage wire traps	7
Number and kind of baits (coconuts)	20,134
Number of poison portions placed	16,458
Number of rats found poisoned	1,039
Number of rats killed by clubs and other weapons	2,223
Number of rats found dead from other causes	1,000
Total number of rats otherwise caught, found dead or killed	27
Total number of rats sent to the Laboratory for examination	9,248
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF FEBRUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	11	2	14	3	10	0	18	3	9	1	71
Female	7	0	7	2	6	0	12	9	6	2	51
Dead:											
Male	0	1	2	0	0	0	0	2	0	1	6
Female	1	0	0	0	0	0	0	0	0	1	2
Total:											
Male	11	3	16	3	10	0	18	5	9	2	77
Female	8	0	7	2	6	0	12	9	6	3	53
Grand total	19	3	23	5	16	0	30	14	15	5	130

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	2	1	0	0	1	3	1	1	9
Female	3	1	4	0	0	0	5	1	1	2	17
Total	3	1	6	1	0	0	6	4	2	3	26

Total cases reported within the month in the City of Manila		175
Resident cases	139	
Non-resident cases	36	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		36
Deaths among resident cases	26	
Deaths among non-resident cases	10	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		163
Autopsy	0	
Blood culture	4	
Clinically positive	119	
Feces	1	
Widal reaction	39	
Cases confirmed as paratyphoid fever		0
Cases not confirmed		12

Paratyphoid fever—None.
18 Typhoid carriers—Living, 18.

DYSENTERIES REPORTED DURING THE MONTH OF FEBRUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	0	0	1	0	0	1	2	0	5
Female	0	0	2	0	0	0	1	0	0	0	3
Dead:											
Male	0	0	0	0	0	0	0	2	0	0	2
Female	0	0	0	0	0	0	0	1	0	0	1
Total:											
Male	1	0	0	0	1	0	0	3	2	0	7
Female	0	0	2	0	0	0	1	1	0	0	4
Grand total	1	0	2	0	1	0	1	4	2	0	11

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	3	0	0	3
Female	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	0	0	4	0	0	4

Total cases reported within the month in the City of Manila		12
Resident cases	11	
Non-resident cases	1	
Total deaths reported within the month in the City of Manila		4
Deaths among resident cases	4	
Deaths among non-resident cases	0	
Reported as:		
Acute dysentery	1	
Amœbic dysentery	0	
Bacillary dysentery	0	
Chronic dysentery	8	
Dysentery	8	
Erroneously reported as dysentery	0	
Total		12

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF FEBRUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		1
Non-resident cases	0	
Foreign cases	0	
Resident cases	1	
Resident cases confirmed as cholera	0	
Resident cases not confirmed	1	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	

Cholera carriers—None.

DIPHTHERIA CASES REPORTED DURING THE MONTH OF FEBRUARY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	0	0	0	0	1	0	0	0	2
Female	0	0	0	0	0	0	0	0	1	0	1
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	1	0	0	0	0	0	1	0	0	0	2
Female	0	0	0	0	0	0	0	0	1	0	1
Grand total	1	0	0	0	0	0	1	0	1	0	3

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	1	0	0	0	1
Female	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	1	0	1	0	2

Total cases reported within the month in the City of Manila		6
Resident cases	4	
Non-resident cases	2	
Resident cases confirmed as diphtheria	3	
Resident cases not confirmed	1	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases confirmed as diphtheria	2	
Deaths among non-resident cases	1	

1 Diphtheria carrier—Living, 1.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1923

RESIDENTS

Diseases	Cases		Death	
	Male	Female	Male	Female
Malaria	13	4	3	1
Varioloid	0	0	0	0
Varicella	9	7	0	0
Smallpox	0	0	0	0
Measles	13	13	1	1
Whooping cough	0	0	0	0
Influenza	10	8	1	0
Bubonic plague	0	0	0	0
Beriberi	1	1	1	1
Beriberi, infantile	32	26	32	26
Pulmonary tuberculosis	59	48	46	42
Tuberculosis of all forms	8	10	9	10
Encephalitis lethargica	4	4	0	2

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1923—Continued

NON-RESIDENTS

Diseases	Cases		Death	
	Male	Female	Male	Female
Malaria	4	1	0	1
Varioloid	0	0	0	0
Varicella	4	0	0	0
Smallpox	0	0	0	0
Measles	0	3	1	0
Whooping cough	0	0	0	0
Influenza	0	0	0	0
Bubonic plague	0	0	0	0
Beriberi	1	0	1	0
Beriberi, infantile	3	3	3	3
Pulmonary tuberculosis	18	2	9	2
Tuberculosis of all forms	3	0	3	0
Encephalitis lethargica	6	0	3	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF FEBRUARY, 1923

Sera and vaccines	On hand February 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	267,000		267,000	78,000	189,000
Anti-dysenteric serum (ampoules)	47	100	147	100	47
Anti-tetanic serum (units)		1,500,000	1,500,000	1,100,000	400,000
Cholera vaccine (c.c.)	4,750	5,650	10,400	10,160	240
Dried vaccine virus (units)	1,350	30,000	31,350	30,750	600
Fresh vaccine virus (units)	108,900	200,000	308,900	150,200	158,700
Gonococcus vaccine (ampoules)		50	50	50	
Mixed cholera-typhoid vaccine(c.c.)	4,710	56,520	61,230	59,270	1,960
Normal horse serum (ampoules)		54	54	54	
Typhoid vaccine (c.c.)	13,040	39,810	52,850	38,720	14,180

SMALLPOX VACCINATION IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4 years		5 years and over		Total	
		Positives	Negatives	Positives	Negatives	Positives	Negatives	Positives	Negatives
No. 1, Intramuros	719	201	8	116	77			317	85
No. 2, Meisic	3,062	188	5	114	75			302	80
No. 4, Sampaloc	2,308	155	5	92	205			247	210
No. 5, Tondo	2,439	328	11	172	145			500	156
No. 6, Paco	486	132	1	184	165			316	166
Total	9,014	1,004	30	678	667			1,682	697

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1923

See consolidated table of mixed vaccinations in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	......	......	......	......	......	......
No. 2, Meisic	......	......	......	......	......	......
No. 4, Sampaloc	......	......	......	......	......	......
No. 5, Tondo	265	136	414	311	618	386
No. 6, Paco	......	......	......	......	......	......
Total	265	136	414	311	618	386

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	......	......	......	......	......
No. 2, Meisic	......	......	......	......	......	......	......	......	......
No. 4, Sampaloc	......	......	......	......	......	......	......	......	......
No. 5, Tondo	199	96	264	212	324	200	696	1,201	1,528
No. 6, Paco	......	......	......	......	......	......	......	......	......
Total	199	96	264	212	324	200	696	1,201	1,528

NOTE.—A, means adult; C, children.

CONSOLODATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	828	166	268	101	43	91
No. 2, Meisic	1,257	80	1,228	78	714	53
No. 4, Sampaloc	653	32	83	19	61	6
No. 5, Tondo	......	......	......	......	......	......
No. 6, Paco	410	219	333	283	257	206
Epidemiology Section	2,218	1,032	1,645	755	1,455	628
Total	5,366	1,529	3,557	1,236	2,530	984

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	653	148	345	32	20	69	1,795	746	223
No. 2, Meisic	930	87	678	59	1,017	72	2,354	2,043	1,856
No. 4, Sampaloc	696	66	226	28	101	20	1,447	356	188
No. 5, Tondo	......	......	......	......	......	......	......	......	......
No. 6, Paco	354	298	473	322	383	241	1,281	1,411	1,087
Epidemiology Section	2,018	800	1,655	685	1,385	560	6,068	4,740	4,028
Total	4,651	1,399	3,377	1,126	2,906	962	12,945	9,296	7,382

NOTE.—A, means adult; C, children.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923[1]

Provinces	Vaccinations	Inspections	Positives	Negatives
Abra	1,003	790	443	347
Albay	18,692	14,569	9,710	4,859
Bataan	1,044	1,038	751	287
Batangas	24,999	12,201	6,141	6,060
Bohol	5,757	5,006	3,531	1,475
Bukidnon	1,132	247	109	138
Bulacan	9,060	6,733	4,958	1,775
Cagayan	2,376	1,955	1,638	317
Camarines Norte	502	501	224	277
Camarines Sur	2,789	2,236	1,362	874
Capiz	1,014	890	625	265
Catanduanes	1,395	847	271	576
Cotabato	2,107	1,003	309	694
Culion Leper Colony	43	43	18	25
Davao	2,575	2,948	769	2,179
Ilocos Norte	3,047	2,765	1,377	1,388
Ilocos Sur	1,301	1,154	754	400
Iloilo	7,786	3,548	2,755	793
Laguna	4,535	3,647	2,410	1,237
La Union	3,371	2,563	879	1,684
Lanao	3,388	1,570	853	717
Leyte	16,072	10,120	8,139	1,981
Marinduque	2,399	1,617	912	705
Nueva Ecija	2,102	1,828	1,274	554
Nueva Vizcaya	877	883	633	250
Oriental Negros	8,851	5,654	2,854	2,800
Pampanga	3,476	2,256	1,625	631
Pangasinan	8,029	8,273	6,111	2,162
Rizal	4,722	3,466	2,053	1,413
Romblon	539	425	237	188
Samar	2,692	2,132	1,194	938
Sorsogon	926	711	470	241
Tarlac	26,351	18,531	11,755	6,776
Zamboanga	590	498	261	237
Total	175,542	122,648	77,405	45,243

[1] Compilation of reports received since January.
Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injection		Second injection		Third injection	
	A.	C.	A.	C.	A.	C.
Albay	484	205	5	....	....	....
Cebu	161	66	151	26	....	....
Total	645	271	156	26	....	....

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	314	120	4	......	....	....	1,123	9	....
Cebu	100	60	81	15	....	....	387	273	....
Total	414	180	85	15	....	....	1,510	282	....

[1] Compilation of reports received since January.
Other reports not yet received.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C
Ilocos Norte	802	102	512	49	277	200
Nueva Ecija	7	....	....	....	....	....
Pampanga	216	154	181	80	104	56
Total	1,025	256	693	129	381	256

Provinces	Number of persons vccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Ilocos Norte	548	59	371	71	276	168	1,511	1,003	921
Nueva Ecija	3	....	4	....	....	....	10	4	....
Pampanga	214	144	139	99	108	63	728	499	331
Total	765	203	514	170	384	231	2,249	1,506	1,252

[1] Compilation of reports received since January.

Other reports not yet received.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Antique	44	34	25	27	....	....
Bataan	146	6	66	4	....	....
Bohol	12	....	12	....	....	....
Ilocos Norte	108	187	124	45	....	....
Ilocos Sur	75	60	73	60	....	....
Lanao	40	15	5	8	....	....
La Union	266	180	155	36	....	....
Marinduque	32	....	....	....	....	....
Masbate	135	45	215	48	....	....
Nueva Ecija	46	23	15	19	44	23
Nueva Vizcaya	76	54	60	18	7	....
Pampanga	164	70	71	28	....	....
Tarlac	14	29	8	13	....	....
Zamboanga	44	8	....	....	....	....
Total	1,202	711	829	306	51	23

[1] Compilation of reports received since January.

Other reports not yet received.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Antique	30	31	37	4	....	....	139	93	....
Bataan	58	11	35	4	....	....	221	109	....
Bohol	17	....	17	....	....	....	29	29	....
Ilocos Norte	73	150	26	45	....	....	518	240	....
Ilocos Sur	12	27	12	27	....	....	174	172	....
Lanao	3	1	3	....	....	....	59	16	....
La Union	211	116	105	30	....	....	773	326	....
Marinduque	32	....	....	....	....	....	64	....	....
Masbate	44	33	76	65	....	....	257	404	....
Nueva Ecija	31	24	12	5	17	8	124	51	92
Nueva Vizcaya	34	41	31	24	1	....	205	133	8
Pampanga	177	73	72	36	....	....	484	207	....
Tarlac	36	20	7	10	....	....	99	38	....
Zamboanga	18	7	....	....	....	....	77	....	....
Total	776	534	433	250	18	8	3,223	1,818	100

[1] Compilation of reports received since January.

Other reports not yet received.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF FEBRUARY, 1923

Provinces and towns	Cases	Death
Leyte:		
Baybay	2	....
Mindoro:		
Calapan	1	....
Total	3	....

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF FEBRUARY, 1923

Province and town	Case	Death
Zamboanga:		
Taluksangay	1	1
Total	1	1

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY OF MANILA, DURING THE MONTH OF FEBRUARY, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending January, 1923:						
Minor	25	3	17	30	15	90
Sewer	11	39	18	5	3	76
Vacating	6	14	7	....	9	36
Filling	5	2	14	5	5	31
Total	47	58	56	40	32	233
Orders issued during the month:						
Minor	5	9	5	1	....	20
Sewer	....	2	....	....	....	2
Vacating	1	....	....	....	....	1
Filling	....	....	....	1	....	1
Total	6	11	5	2	....	24
Grand total	53	69	61	42	32	257
Orders completed during the month:						
Minor	4	12	3	1	....	20
Sewer	....	2	....	....	....	2
Vacating	4	....	....	....	....	4
Filling	....	....	1	....	....	1
Total	8	14	4	1	....	27
Orders cancelled during the month:						
Minor	....	....	....	....	....	....
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	....	....	....	....	....
Orders pending February:						
Minor	26	....	19	30	15	90
Sewer	11	39	18	5	3	76
Vacating	3	14	7	....	9	33
Filling	5	2	13	6	5	31
Total	45	55	57	41	32	230
Strong materials, plans approved:						
New buildings including additions and alterations	18	13	24	46	5	106
Permits for minor building constructions:						
Approved	8	7	19	22	7	63
Disapproved	3	1	8	6	1	19
New buildings completed	5	7	10	19	4	45
Light and mixed material construction:						
Permits approved	....	....	18	5	7	30
Permits disapproved	....	....	....	....	2	2
Total number of building projects passed upon	34	28	79	98	26	265
Prosecutions:						
Convictions	....	....	1	....	....	1
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	₱20.00	....	....	₱20.00
Plumbing permits issued	18	30	27	33	9	117
Plumbing projects completed	20	29	30	35	8	122
Premises connected to the Sanitary Sewer to January 31, 1923	1,639	2,817	1,026	545	407	6,434
Premises connected during the month	7	6	7	5	3	28
Total	1,646	2,823	1,033	550	410	6,462

Intramuros includes Ermita and Malate.
Meisic includes Sta. Cruz, Binondo and San Nicolas.
Sampaloc includes Quiapo, San Miguel and Sta. Mesa.
Paco includes Pandacan and Sta. Ana.

DEC 26 1923

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III MARCH, 1923 No. 3

The keystone of a nation's progress is sanitation and education

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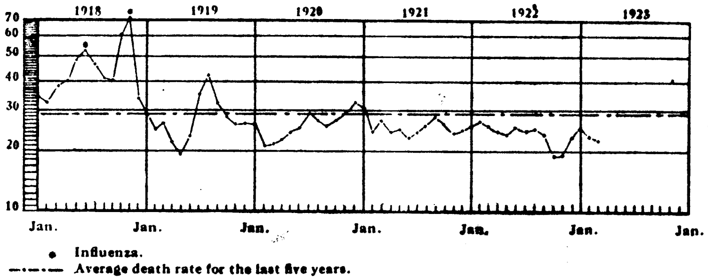

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III MARCH, 1923 No. 3

THE CULION LEPER COLONY

By H. W. WADE
Chief Pathologist and Acting Chief Physician

and

JOSE AVELLANA BASA
Chief of Colony, Culion, Palawan, P. I.

(ABSTRACTED)

INTRODUCTION

The Culion Leper Colony is an institution that in many respects is unique. It is the largest well-organized leprosarium in the world, contains large numbers of cases of all types of the disease, and offers unusual opportunities for the study of the disease and its treatment. Nevertheless, it has not become so well known as it should be either by the general public or the medical profession. There is a natural repulsive suggestion in the thought of any leper asylum, which has often been exaggerated to an unreasonable extent in the case of Culion by stories concerning it that have been circulated. As a scientific institution, little recognition has been earned for it; until very recently personnel and facilities have been insufficient to carry on the type of work that alone can make such an institution of world-wide importance.

As a result of the increase of interest in the treatment of leprosy resulting from work in India and Hawaii, the Leprosy Investigating Committee of the Bureau of Health was able to secure provision in 1921 for starting modern work at Culion on a small scale. The very keen and active interest of Governor-

General Wood resulted, early in 1922, in the expansion of this work to a more nearly adequate scope. The knowledge of leprosy from the viewpoint of modern medical science is so inexact, and the problem of its treatment is so important, that there can be no doubt that this work will be productive of results of some importance; and in view of this fact it has been felt that a description of the colony and of the work now being done will be of interest.

EARLY LEPROSY WORK

The early history of leprosy in the Philippines is hidden in obscurity, and is not of present importance. The disease has probably been here for a very long time, for there has for many centuries been intercourse with China and other leprosy-infected countries.

During the Spanish régime, some work was done by the ecclesiasticals for the special care of lepers. The first provision for them in Manila is said to have been a separate ward established in 1633 by Franciscan friars in their general hospital. A century and a half later, in 1784, Charles III, of Spain, gave the San Lazaro estate to the Franciscans to establish a leper hospital. This work was carried on until September, 1898, when San Lazaro Hospital was turned over to the American military authorities. There were two other leper hospitals in the Philippines, one at Cebu, the site of which is still used for a detention depot, and one at Palestina, Nueva Caceres. It is said that in many of the larger towns there were groups of lepers more or less isolated, usually in old bamboo-and-nipa shacks. They were outcasts, without regular support or material attention; and although they were accessible to friends, the condition of many was extremely miserable.

The object of what regular work was done for the lepers during this period was humanitarian; it was not done for the purpose of eliminating the disease, as is segregation today. The hospitals were primarily for the care of the needy cases, and the inmates were apparently not strictly detained. It has been suggested that the very high leprosy incidence in Cebu may be due to the dissemination of the disease by escaped lepers who took up residence in nearby towns.

ESTABLISHMENT OF THE COLONY

From the outset, both the American military and civil authorities were convinced of the desirability of instituting the systematic segregation of lepers. Two islands, Culion and

Cagayan de Jolo, were investigated as to their desirability for this purpose, and Culion was finally selected in 1901. Work was at once begun to establish the colony centrally in the island, the approach to be by three miles of river and two of trail from a fine harbor in the southern portion of the island; but after nearly a year of preparation, this location was abandoned on account of inadequate water supply, and the little village of Culion was selected. Construction work here did not begin until 1905; but in May, 1906, the work had advanced sufficiently to permit the transfer of about 500 lepers.

The situation at the colony was at first very difficult. This fact was not surprising, as the staff was very small, consisting of one physician, Dr. C. F. de Mey, four French Sisters of Charity of the Order of St. Paul de Chartres, one Spanish priest, and a few subordinate employees. It was difficult to obtain labor willing to work in the colony. The condition of the lepers when they came was extremely bad as a result of long neglect, and their care was made difficult by the inadequacy of facilities. During the organization period, the inmates undoubtedly had much to complain of; but this condition was to some extent unavoidable. Conditions slowly improved, so that at the present time the situation is very different.

THE PRESENT COLONY

Culion Island, very irregular in outline, measuring roughly eleven and one-half miles in a north and south direction, and nineteen miles in its longest diameter, with a total area of approximately one hundred fifty square miles, is one of the Calamian group, which constitutes the northern portion of the Province of Palawan. With two other large islands and many small ones, it surrounds a bay some ten miles long, to which three deep-water passages lead.

The colony is on the bay side of the island and is everywhere surrounded by vistas of unusual beauty. As one approaches it by water, particularly in the dry season, an unfavorable first impression is gained of a parched, poverty-stricken settlement on stony hillsides; but the truth is that the colony is for the most part a nipa-roofed Philippine town of 5,000 inhabitants, more orderly, more cleanly, and with its water system, electric lights, and ice plant, more advanced than most towns of similar size. While it is true that there are unfavorable features, nevertheless, Culion is not more unattractive than are many districts in the Philippines during the dry season. The beauties of the surrounding waterways and hilly little islands, the surprising response of the soil to treatment in the rainy season, and the simple, orderly, not uncheerful lives of the inmates greatly modify for the resident the unpleasant first impressions.

The institution includes the non-leper staff headquarters, Balala, and the colony proper. In none of these districts, which together occupy but an insignificant bit of the island, is there any level ground that has not been made by cutting or filling. This character is distinctly favorable from the viewpoint of town sanitation. From the sea, the Colony begins as a rocky promontory, thirty meters high, crowned by a fine old Spanish church. Below this level is one of the two treatment clinics with its nipa-roofed hospital, and several dormitories for children. Hospital Plaza, eighteen meters above the sea, occupies the artificially-broadened saddle between this and the higher fifty-meter hill on and about which the greater part of the colony is built. This hill in turn drops back in one direction to another broader saddle, thirty meters above the sea, known as Worcester Plaza in honor of the Hon. Dean C. Worcester who, as Secretary of the Interior, played a leading part in the establishment of the colony. This saddle connects "Topside Hill" with the high L-shaped ridge behind the colony; elsewhere the hill drops by flanking slopes to sea level. Balala is on the slope to the westward, a full ten minutes away from the center of the colony; the southern slope drops abruptly to a large amphitheatre-like hollow into which the town has extended.

Farther to the south, separated from the colony proper by a kilometer of steep hillside, is the Pilapilan district, a triangular flat of some six hectares of tillable soil, much of which the colonists are now cultivating. To the east of this district is the site selected for the proposed "negative colony" for cases that have become negative since coming to Culion. The less abrupt of the slopes that shut this flat in on three sides are fairly extensively planted, chiefly with banana, pineapple, and papaya. Some two or three miles west of Pilapilan is a much larger agricultural district, Baldad. Elsewhere the island offers a wide range of conditions, from open cogon-grass plains to dense tropical forests, from fertile river flats to stony little mountains. There is little spreading out by the colonists except along the coast, as there are no roads and but a few foot-trails.

The site originally selected for the colony was chosen with a view to encouraging agriculture, particularly cattle-raising; but desirable as this plan would be, it is doubted whether the colony would have developed along those lines. At the present time less than eight hundred inmates live outside of the colony proper, carrying on agriculture, usually desultorily, or fishing; most of these are people from the Ilocos, Iloilo, and Cebu Provinces.

The total area covered by the colony proper is estimated to be about 40 acres. On this space there are more than six hundred houses of lepers and all of the Government buildings. Drainage is provided for in some districts by concrete gutters and conducts. The water supply is from a small mountain stream, from which a four-inch pipe line more than two kilometers long leads to a tank from which most of the colony is supplied with running water.

The Government-owned buildings constitute a considerable group. On the Balala flat are the administration building, a general kitchen and mess hall, laundry sheds, a concrete barracks building now used for male nurses and others, the house of the chaplains, a wooden four-apartment house for married physicians, a wooden bachelors' quarters for the unmarried doctors, a nipa-roofed nurses' home, storehouses for supplies, a shed for the carpenters and mechanics, the wharf, a basin for small boats, and the three small buildings and the radio tower of the Bureau of Posts. On the hillside above are seven residences, mostly occupied by senior members of the staff, a temporary hospital for non-leper laborers and others, and the house of the Protestant missionary just completed. The laborers live in a separate barrio a little to the west. Balala is supplied with water by a very fine spring.

The administrative center of the colony itself is Colony Hall, with the court-room of the chief of the colony above and the Government store and the post office below. Nearby is the general kitchen, where daily rations are issued. Other structures include a distributing shed for the weekly rations, headquarters for the Public Works division, including among others plumbers, tinners, painters, carpenters, firemen, and street cleaners; a crematory for the town garbage; a sort of jail and detention quarters for insane; and a quarantine station for newcomers. One building is devoted to the school, with five grades, supported by the Bureau of Education, and another houses the Leper Club, with its piano, pool-table, and much old-reading matter.

In the various dormitories and other Government buildings, a total of about 2,000 persons are housed; 1,350 adults and 650 children. Some of these are concrete "tisas" or "tenement houses," five-room structures for twelve persons in each room. There are now seven of these tenements, and four wooden barracks for fifty inmates each which were built last year. Smaller groups are accommodated in other buildings. For children and young people, there are ten dormitories of various sizes. Two were built mainly by the Catholic authorities, and two small ones by the American Mission for lepers (Protestant). Most of the colonists, more than three thousand, are living in houses built and owned by themselves, or rented from other lepers.

For the medical work there was, previous to 1921, only the so-called General Hospital, with six wards holding 300 beds, a kitchen, and a small morgue. At the present time, after some rearrangements, there are seven wards with 265 beds, distinctly less crowded. A large kitchen has been built, and the old one is to be converted to the hospital pharmacy. The old pharmacy room is to be fitted up for a surgical operating-room. There are office rooms, an ulcer-dressing clinic conducted by Sister Calixte, one of the two Sisters still remaining of the first group to come to Culion before the first patient arrived, a newly organized medical clinic, a class-room for the leper nursing aids, and a medical supply depot from which the wards are now furnished minor supplies. One of the wards is in a small separate concrete building which, it is expected, will be used as a radiotherapy department as soon as the necessary equipment can be obtained. One ward building has been taken over for a laboratory and office building; the patients have been provided for in two buildings previously used as tenements.

Anti-leprotic treatment is given separately from the hospital. There are two clinics, quartered in buildings built for other purposes. Near each has been erected an "emergency" hospital for the care of cases under treatment requiring hospitalization. These hospitals, of 50-bed capacity, cost from ₱4,000 to ₱6,000 each. A small clinic has been erected in the low Pilapilan district to facilitate combating malaria, as well as to give anti-leprotic treatment to the residents. The people living in the Baldad district have now petitioned for a similar clinic.

The administrative center of the treatment work is now in what was a ward, where the offices of the chief physician and the chief nurse and the headquarters of the pathological and chemical sections have been installed. Until February of the present year, the pathological section was quartered in a single large room in one of the clinics. This arrangement had been made in 1921 when there was only the most rudimentary equipment, and a single laboratory man doing part-time clinical work. In the newly-arranged quarters, there is provision for the pathologists and the technical assistants, with a preparation room, a small examining room, and small but adequate dark-rooms. The equipment is now adequate for much of the work planned for. The chemical research laboratory is in the same building. This laboratory is equipped for such special work as has been anticipated will be needed. The manufacturing chemical plant is entirely separate, and has been in operation since September, 1922. Worked at capacity, the plant can yield in a month about 100 liters of chaulmoogra ethyl-esters or equivalent products.

GENERAL ORGANIZATION

The entire Culion reservation is the property of the Philippine Health Service, and is strictly reserved. The chief of the colony, as the representative of the Director of Health, functions as general administrator, justice of the peace, and counselor of the inmates. Until recently, his responsibilities included the medical service; but as the institution grew in size and complexity of system, it became necessary to pay more and more attention to the administrative work, and which the final increase of staff in 1922 the fields of operation were divided. The chief physician is now responsible for the work of the medical section and the professional performance of its personnel. The chief pathologist and the chief chemist are similarly in charge of their fields.

The non-leper staff of the administrative section consists of a few permanent employees, and a considerable but variable number of temporary employees, including those of the office, store-room, kitchen and bakery, the shop and construction forces, the sanitary personnel, and miscellaneous labor.

In the colony, practically all of the routine work is done by leper employees. There is a well disciplined corps of leper police, and a corps of "firemen" drilled in simple fire-fighting tactics. The members of the staffs of the general kitchen, the Government store, the colony post office, the Public Works department, the sanitary department, the court, the band and orchestra, are all lepers. Most of the routine nursing and all of the service work of the hospitals and clinics is also done by leper employees.

The government of this fair-sized town is carried on by the chief of the colony, in part through and with the aid of an advisory board, and elective body of which he is *ex-officio* the head. The political division is by racial sub-groups, as the Tagalogs, Cebuanos, Ilocanos, etc.

For amusement, there is some provision. Cinematograph shows are given irregularly, and a brass band and a string orchestra play alternately on Sundays and Thursdays in the main plaza. Cock-fighting is permitted on Sundays and holidays, heavy betting being prohibited by regulation. A few pool and billiard tables are operated privately. Indoor baseball is played occasionally, and a tennis and volley-ball court has recently been laid out.

All of the food staples are brought from Manila and distributed once a week. Besides rice, mongo beans, lard compounds, sugar, tea, coffee, garlic, onion, canned tomato, and other things are issued. The fresh fish allowance is 250 grams daily, but usually this ration has had to be substituted in some part by canned salmon or sardines or by mongo. The amount needed daily is 1,300 kilos, whereas for 1922 the daily catch averaged but 400 kilos. Until February, 1923, this haul was gotten entirely by leper fishermen; but recently a crew of Japanese fishermen has been obtaining sufficient quantities to fill the daily quota. Beef produced on nearby islands is issued once a week. Of vegetables, there is a lack; because of high ultimate costs, little more than onions, garlic, and sweet potatoes are shipped from Manila, and for the most part such products as can be purchased from leper farmers are depended on. Steps have been taken to encourage the lepers to plant vegetables.

Clothing is issued once or twice a year, but the amount available for this item is small. This is one of the incentives to self-help on the part of the inmates. A regular "gratuity" money allowance of ₱0.20 a week is paid to each child, woman, and incapacitated adult male; but by mutual agreement it is not paid to able-bodied men, and the fund so saved is used to pay miscellaneous leper labor. Among the remunerative occupations engaged in by the inmates are Government-supported activities and various private enterprises, including the keeping of small stores, agriculture, fishing, wood-cutting, bamboo-working, shoemaking, and baking.

From some viewpoints, it is unfortunate that the Government cannot afford to provide for all of the inmates more fully, particularly as regards housing and clothing; but it cannot be denied that for the majority, some regular light occupation to keep them fit in mind and body is desirable. It would undoubtedly be harmful for the average active leper, as for the average healthy ordinary human being, to have all of his wants fully met without effort. And the cost of doing this work of charity would be prohibitive.

That the Government cannot be expected to support the lepers much more abundantly will be apparent when it is considered that for 1923 more than ₱1,000,000, about 1.6 per cent of the estimated ₱65,000,000 total income of the Government, will be spent on one phase or another of leprosy work.

The Philippine Anti-Leprosy Society was organized late in 1921, primarily to raise funds to aid the Government to provide the lepers with better treatment and care; but except for the purchase of steam-laundry machinery, a small motion-picture machine, and school books for the fifth grade, it has been able to do little as yet. The local lodge of the Knight of Pythias has shown much interest in the work of late, and it started a campaign for an appropriation of $1,000,000, chiefly to build, equip, and endow adequately a research laboratory. A local drive netted a small amount that was used to equip a small electrically-equipped tailor shop, but the endowment has not yet been obtained.

TREATMENT WORK

Under the term "treatment work" is included, besides the activities of the medical section, with its anti-leprotic treatment clinic and the general care of sick lepers, those of the pathological section, with its routine examinations, autopsies, and special work, and of the chemical section, which manufactures all of the anti-leprotic preparations used and is engaged in the study of new ones.

Most of the personnel of these sections is provided for by a special act of the Legislature passed early in 1921, which limits the number of *médicos y técnicos* to twenty, in addition to the three physicians, not including the chief of the colony, who were already at Culion when the act was passed. Interpreting *técnicos* to include graduate chemists, but not semi-skilled technical assistants, all but one of the twenty positions, that of the permanent chief physician, are now filled. Two years ago there were only four physicians, including the administrator, who could do little medical work. One of the others served also as pharmacist, so there were practically the equivalent of but two and a half men to care for 300 hospital patients, a daily "dispensary" clinic of fifty to eighty cases, and calls from outside the hospital. Thus undermanned, the work was necessarily palliative. There are at the present time fifteen physicians, including the chief physician, in the clinical section alone. Two groups, comprising two supervising physicians and nine treating physicians, are in charge of the treatment clinics, and three men are assigned to the General Hospital.

On the nursing staff, there are ten Sisters of Charity, who concern themselves solely with the General Hospital. It is impossible fully to evaluate the work of these noble women who, since the colony was begun, have worked with unflagging devotion under most monotonous and sometimes extremely trying circumstances. There are also twenty graduate nurses, of whom at the present time eleven are women and nine men. These are under the authority of the chief nurse, and are assigned to the treatment clinics, the attached emergency hospitals, and to the General Hospital to assist the Sisters in technical matters. One is attached to the Negative Children's Home and the infirmary in Balala. The staff of leper nursing aides is an important factor in the work. Formerly known as leper attendants, permanently employed, without instruction, they have so far as possible been put on the basis of students in a training school, with regular classes and periodic examinations. Considerable improvement in service has already resulted.

A competent pharmacist has been added to the staff. He is assisted in the colony pharmacy by one of the Sisters, and so is able to fill the recently created office of medical supply officer. A dentist has for some years kept an office in a somewhat inaccessible room, but this office will shortly be moved to better quarters and a campaign of education started to persuade the colonists to take better care of their teeth.

The staff of the pathological section nominally consists of a chief pathologist and two assistants, with three technical asistants of various degrees of training; the present chief pathologist has found it possible to devote but little time to this work on account of other temporary duties. Aside from routine clinical laboratory examinations autopsy work is the most important activity of the section. No laboratory studies could be carried on in the crowded quarters until very recently occupied.

The staff of the chemical section, under Dr. Granville A. Perkins, formerly of the Bureau of Science, Manila, includes two assistant chemists, graduate pharmacists, and two semiskilled helpers. This section manufactures all of the preparations that are used for anti-leprotic treatment, chiefly the ethyl-esters of chaulmoogra oil, plain and iodized, and on a small scale the ethyl-esters of cod liver oil and the Mercado mixture; the Rogers solutions of sodium salts were discontinued after several months use in 1921. Doctor Perkins is working on the preparation of materials that will prove more active, or less harmful, than those now in use.

The *modus operandi* of the medical section is necessarily very different from those of most medical institutions. As has been said, anti-leprotic treatment is given in the two treatment clinics, separate from the General Hospital. Each of the nine clinic units is manned by a physician, a nurse, and two leper nursing aides. An average of nearly five hundred cases is registered in each of these units, totalling more than 4,200 cases. Among these cases are many persons who, on account of pulmonary tuberculosis, nephritis, or other conditions are not suitable for anti-leprotic treatment; so each unit physician has had a "dispensary" group supposed to report regularly for observation and such treatment as might be indicated.

Patients of a clinic, whether treatment or dispensary cases, who require temporary hospitalization, are placed in the clinic hospital; the women of all clinics are accommodated in a General Hospital ward pending the erection of a separate building for them. The General Hospital proper is reserved for advanced cases of leprosy, tuberculosis, nephritis, etc., that are unsuitable for clinic treatment and require hospital care. Not a few of the patients are in good health, but are crippled and require nursing. Surgical and other instruments have now been procured for the improvement of the hospital work, and additional equipment will be added this year if sufficient appropriation is obtained.

After a year of organization and preliminary observation, it has been found necessary to make certain changes in the system adopted last year. The clinics registration cannot well be increased without more staff, and this increase has not been allowed; yet new, favorable cases, some of them volunteers, are coming to Culion and are appealing for treatment. Furthermore, the present available methods can and should be improved, so it is imperative that clinical and laboratory research be pushed. To meet these conditions, certain readjustments are being made so that unsuitable cases can be taken from the clinics lists and new cases substituted. The dropped cases will be assigned to a special dispensary clinic where they can be given more uniform treatment. The study of tuberculosis, nephritis, and other complications of leprosy can be centered here. A small research group is being organized for special investigations, and the other members of the staff are being encouraged to engage in some special observation.

TREATMENT OF LEPROSY BY ANTIMONY

By JOSE N. RODRIGUEZ, M. D.
and
FROILAN EUBANAS, M. D.
From the General Hospital, Medical Section, Culion Leper Colony, Philippine Health Service

(AN ABSTRACT)

Even though the most modern chaulmoogra treatment for leprosy is greatly superior to the older methods, there is still much room for improvement. In Culion, as well as elsewhere, efforts are being made to this end. When, therefore, any worker reports superior results by some new method, it is necessary to investigate the validity of the assertion. Only very recently, Cawston,[1] of Natal, asserted that very promising results with some of the compounds of antimony had been secured, and his findings were confirmed by Wildish[2]. These workers employed a colloidal preparation of antimony principally, although equally good results were obtained with the use of tartar emetic intravenously and also with antimony wine undiluted or given in cough mixture. They noticed, within a short time, relief of paralysis, drawing up of ulcers, and improvement of the general condition. The results claimed are remarkable inasmuch as many of the patients were advanced lepers, some of them "poor cripples awaiting death." Doctor Cawston brought the attention of the Culion authorities to his encouraging results, and we were requested to try them out on cases under our care.

Thirty patients of the General Hospital were given tartar emetic intravenously; twelve received antimony wine in cough mixture, and ten antimony wine undiluted. These treatments were given for six months. Twelve other patients received, for three months only, a modified Castellani mixture, which contains tartar emetic and potassium iodide. We were not able to try out the proprietary colloidal preparation "oscol stibium;" but according to Clark[3] this preparation offers no advantage over the simple tartar emetic solution.

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[1] Cawston, F. G. Antimony in Leprosy—Brit. Med. Journ., 1920, 1 76–77, (July 17); 2 855–856, (Dec. 4); 1921, 1 419 (Mar. 19).

[2] Wildish, G. H. Antimony in Leprosy—Brit. Med. Journ. 1922, Jan. 14, p. 55.

The patients selected were mostly males, the majority being more than 30 years of age, and the average duration of the disease about 11 years.

By the intravenous method, using a fresh one per cent solution of tartar emetic in water, we have been able to give only the very small average dose of 0.0015 gram of tartar emetic a week. When we tried to increase this dose, various ill effects were noticed in our patients. The most serious complication so produced was irritation of the kidneys, as evidenced by the urine examination. Diarrhea also proved to be a dangerous symptom when it appeared in the cases receiving tartar emetic intravenously. Two of three patients presenting this symptom died. We also tried to increase the frequency of injection on two of the most promising patients, but the results proved disastrous. Both became very weak, and one of them died from effects of a big ulcer of the larynx which was evidently produced by the injections. The tuberculous process of the lungs in several cases was also aggravated.

Administered orally in the form of *vinum antimonii,* the highest dose of tartar emetic that could be given was 0.252 gram a weak. In the Castellani mixture, 0.2275 gram weekly was given. The latter was found to produce exacerbation of the disease, which proved harmful.

No improvement of the leprosy itself was noticed in any of the patients treated. On the whole, the general condition was unfavorably effected. Six of those in the intravenous group and one in the Castellani mixture died during the period of observation, in spite of the fact that medication was stopped as soon as evidence of injury was detected. At the autopsy, injury to the kidneys, cloudy swelling of the liver, and exacerbation of the tuberculous lung lesions were found in five of the seven deaths, some at least of which was probably due to the medication. In 25 per cent of the other cases in the intravenous group and 42 per cent in the Castellani group the ulcers were improved to some extent. These improvements were noticed mostly in the ulcers of nodules, which were of short duration. Tartar emetic was also tried in cases with the so-called "lepra fever," with indifferent results.

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[3] Clark, A. J. The Properties of certain "Colloidal" preparations of Metals. Brit. Med. Journ. 1923, Feb. 17, 3242, pp. 273–277.

A case of extensive ulceration, probably due to tertiary yaws, injected for about two months, showed marked improvement and none of the ill effects on the kidneys that was so noticeable in the lepers.

The dose we have been able to give is much lower than the amounts that have been given with impunity in the other diseases. This difference is not surprising as the kidneys of the many of the advanced lepers at Culion are found to be more or less seriously damaged.

CONCLUSIONS

1. Antimony in the form of tartar emetic, *vinum antimonii,* and Castellani's yaws formula, as we have employed them, appears to be of no real therapeutic value as a means of treating leprosy.
2. Tartar emetic appears to improve some of the ulcerations so commonly found in leprosy; but because of its irritating properties and the fact that it promotes wasting, its use in this connection, instead of more efficient and less harmful drugs available, is not justifiable.
3. These preparations should be used cautiously on lepers, especially those in the more advanced stages of the disease. The intravenous medication has, in our experience, proved injurious to the kidneys, which in the majority of these cases showed considerable damage. The same treatment also accelerates pulmonary tuberculosis. The Castellani formula tends to excite leprous reaction and is irritating to the stomach.

We are indebted to Dr. H. W. Wade, chief pathologist and acting chief physician of the colony, at whose suggestion this work was initiated, for valuable help given us in the preparation of this paper. We also wish to express our thanks to Dr. C. B. Lara, supervising physician of clinic 2, for calling our attention to the use of tartar emetic in lepra fever in his clinic and for help in gathering data on the cases so treated.

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of March, 1921]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR 1922[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

MARCH, 1923

Date	Pressures[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	761.97	24.9	32.6	7	17.5	3	27.3	27.8
11-20	61.18	25.7	32.8	14	19.5	11	28.0	28.4
21-31	59.46	25.5	32.5	21	19.8	26	28.3	28.7

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent.	*Per cent.*		*Per cent.*	
1-10	74.2	92.5	5	64.1	2
11-20	73.7	75.4	19	72.0	11
21-31	75.0	82.3	24	69.0	31

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

MARCH, 1923

Date	Wind				Atmidometer (open air)[1]		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	E quad	1,787.0	215.0	10	42.0	5.4	2
11-20	S. E.	1,808.0	210.5	13	50.1	5.6	15
21-31	E, S. E.	1,854.0	265.5	28	46.4	5.3	26

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	53 10	8 05	7	66.9	3
11-20	83 20	9 35	15	0.0	0
21-31	60 25	9 25	26	17.2	2

[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	2	5	18.80
Filipinos	627	580	1,207	51.22
Spaniards	1	....	1	6.03
Other Europeans	2	1	3	31.39
Chinese	20	24	44	29.03
All others	1	7	8	43.12
Total and average	654	614	1,268	49.16

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	99	88	187	6	10	16	203	64.01
No. 2, Meisic	108	104	212	8	11	19	231	26.15
No. 4, Sampaloc	104	97	201	11	7	18	219	52.32
No. 5, Tondo	227	216	443	16	12	28	471	68.87
No. 6, Paco	70	66	136	5	3	8	144	52.14
Total	608	571	1,179	46	43	89	1,268	49.16

Number of births attended by physicians, living, 298; stillbirths, 16.
Number of births attended by midwife, living, 111; stillbirths, 2.
Number of births attended by family, living, 859; stillbirths, 18.

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS, IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans		1	1	3.76
Filipinos	308	278	586	24.87
Spaniards	7	3	10	60.27
Other Europeans				
Chinese	12	6	18	11.88
All others	6		6	32.34
Total and average	333	288	621	24.08

TOTAL DEATHS BY SOCIAL CONDITIONS, INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	99	89
Divorced		
Widowed	30	48
Single	258	189
Condition not stated	1	4
Total	388	330
Grand total	718	

Stillbirths	36
Number of deaths with medical attendance	364
Number of deaths without medical attendance	354

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	52	32	1		85
30 days to under 1 year	60	52	12	8	132
1 year to under 2 years	29	33	1	1	64
2 years to 4 years	18	20	4	1	43
5 years to 9 years	9	8	1	2	20
10 years to 14 years	5	7			12
15 years to 19 years	14	12	4	2	32
20 years to 29 years	30	24	18	11	83
30 years to 39 years	33	13	3	5	54
40 years to 49 years	26	24	6	7	63
50 years to 59 years	16	15	2	3	36
60 years to 69 years	22	15	1		38
70 years to 79 years	13	13	1	1	28
80 years to 89 years	2	14		1	17
90 years to 99 years	4	6			10
100 years and over					
Age not stated			1		1
Total	333	288	55	42	718

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	144	45.41
No. 2, Meisic	104	11.77
No. 4, Sampaloc	107	25.56
No. 5, Tondo	299	43.72
No. 6, Paco	64	23.17
Total	718	27.84

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			11	15					1		2		29
4. Malaria			1	3									4
9. Diptheria and croup			1	2									3
10. Influenza			2										2
14. Dysentery				1									1
17. Leprosy				2									2
18. Erysipelas						1							1
19. Other epidemic diseases			1										1
20. Purulent infection and septicæmia			2								1		3
24. Tetanus			5	2							1		8
27. Beriberi			2	1									3
27a. Beriberi, infantile			18	16					1	1			36
28. Tuberculosis of the lungs			55	47					4	1	1		108
30. Tuberculous meningitis			3	3					2				8
31. Abdominal tuberculosis			2	4									6
33. White swellings				1									1
34. Tuberculosis of other organs			1	2									3
35. Disseminated tuberculosis			4										4
40. Cancer and other malignant tumors of the stomach, liver				2									2
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum				1									1
42. Cancer and other malignant tumors of the female gential organs				3		1							4
45. Cancer and other malignant tumors of other organs or of organs not specified			2	3	1								6
47. Acute articular rheumatism				1									1
48. Chronic rheumatism and gout			1	1									2
49. Scurvy				1									1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			12	7						1			20
(2) Cerebro-spinal meningitis (undefined)			2	1									3

64. Cerebral hæmorrhage, apoplexy			9	4	2				1				16
66. Paralysis without specified cause			2	2									4
68. Other forms of mental alienation			6	2									8
III. Diseases of the circulatory system													
78. Acute endocarditis			1	1									2
79. Organic diseases of the heart			4	1	1						1		7
80. Angina pectoris			2		1								3
IV. Diseases of the respiratory system													
89. Acute bronchitis			26	25					1				52
90. Chornic bronchitis			3	10									13
91. Broncho-pneumonia			26	25					2	2			55
92. Pneumonia			6	5									11
93. Pleurisy			2										2
96. Asthma				2									2
V. Diseases of the digestive system													
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)			10	5									15
105. Diarrhœa and enteritis (2 years and over)			2	7									9
108. Appendicitis and typhilitis			1										1
109. Hernias, intestinal obstructions			2										2
113. Cirrhosis of the liver			2										2
114. Biliary calculi				1									1
115. Other diseases of the liver			2	1	1								4
117. Simple peritonitis (nonpuerperal)				1									1
118. Other diseases of the degestive system (cancer and tuberculosis excepted)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			3	2	1								6
120. Bright's disease			5	9									14
122. Other diseases of the kidneys and annexa				2									2
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
136. Other accidents of labor				1									1
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)			1	1									2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart		1		1									2
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			4	1									5
(2) Congenital debility			39	28									67
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			6										6
XII. Old age													
154. Senility			10	19		1							30
XIII. Affections caused by external causes													
155. Suicide by poison			1										1
168. Absorption of deleterious gases (conflagration excepted)			1										1
169. Accidental drowning										1			1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2										2
186. Other external violence			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			2	1									3
Total		1	308	278	7	3			12	6	6		621
Grand total	1		586		10				18		6		621

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	7									11
4. Malaria				2									2
4a. Malarial cachexia			2										2
10. Influenza			1										1
14. Dysentery				2									2
19. Other epidemic diseases			4										4
20. Purulent infection and septicæmia				2									2
27. Beriberi				1									1
27a. Beriberi, infantile			5	1									6
28. Tuberculosis of the lungs			4	1									5
30. Tuberculous meningitis			2	1									3
31. Abdominal tuberculosis			1	1									2
39. Cancer and other malignant tumors of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver			1										1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
46. Other tumors (tumors of the female genital organs excepted)				1									1
54. Anæmia, chlorosis				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1										1
64. Cerebral hæmorrhage, apoplexy				1									1
III. Diseases of the circulatory system													
79. Organic diseases of the heart			1	3					2				6
IV. Diseases of the respiratory system													
89. Acute bronchitis			1										1
90. Chronic bronchitis			1										1
91. Broncho-pneumonia			6	3									9
92. Pneumonia			3										3
98. Other diseases of the respiratory system (tuberculosis excepted)			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system													
102. Ulcer of the stomach			1										1
104. Diarrhœa and enteritis (under 2 years)				1									1
107. Intestinal parasites			1										1
109. Hernias, intestinal obstructions			1										1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			2										2
118. Other diseases of the digestive system (cancer and tuberculosis excepted)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			2	1									3
120. Bright's disease			2										2
122. Other diseases of the kedneys and annexa				2									2
124. Diseases of the bladder			1										1
126. Diseases of the prostate			1										1
VII. The puerperal state													
136. Other accidents of labor				2									2
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle				1									1
145. Other diseases of the skin and annexa			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(2) Congenital debility			1	1									2

XII. Old age													
154. Senility				2									2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1	1									2
Total			53	42					2				97
Grand total			95						2				97

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Diphtheria and croup					1	1
10. Influenza					1	1
24. Tetanus				3	1	4
27a. Beriberi, infantile				7	35	42
30. Tuberculous meningitis					3	3
31. Abdominal tuberculosis					1	1
61. Simple meningitis:						
(1) Simple meningitis				2	8	10
79. Organic diseases of the heart					1	1
89. Acute bronchitis					33	33
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					17	17
93. Pleurisy					1	1
104. Diarrhœa and enteritis				1	10	11
117. Simple peritonitis (nonpuerperal)					1	1
119. Acute nephritis					3	3
122. Other diseases of the kidneys and annexa					2	2
145. Other diseases of the skin and annexa					1	1
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart		1		1		2
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	2	1		2		5
(2) Congenital debility	12	7	1	28	21	69
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1			2	3	6
Total	15	9	1	46	146	217

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,166
Number of rats caught by spring traps	3,859
Number of cage wire traps set	666
Number of rats caught by cage wire traps	1
Number and kind of baits (coconuts, meat, etc.)	21,844
Number of poison portions placed	17,285
Number of rats found poisoned	825
Number of rats killed by clubs and other weapons	1,897
Number of rats found dead from other causes	1,067
Total number of rats otherwise caught, found dead or killed	7,649
Total number of rats sent to the Laboratory for examination	7,649
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MARCH, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	8	1	14	0	15	1	17	1	6	1	64
Female	7	1	4	5	7	0	10	0	5	0	39
Dead:											
Male	0	0	1	1	0	2	0	1	0	1	6
Female	0	0	0	0	0	1	1	1	0	0	3
Total:											
Male	8	1	15	1	15	3	17	2	6	2	70
Female	7	1	4	5	7	1	11	1	5	0	42
Grand total	15	2	19	6	22	4	28	3	11	2	112

DEATHS[a]

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	0	1	4	2	4	1	0	1	14
Female	1	0	1	1	1	1	6	2	2	0	15
Total	2	0	1	2	5	3	10	3	2	1	29

Total cases reported within the month in the City of Manila		173
Resident cases	129	
Non-resident cases	44	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		40
Deaths among resident cases	29	
Deaths among non-resident cases	11	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		155
Autopsy	0	
Blood culture	7	
Clinically positive	109	
Feces	3	
Widal reaction	36	
Cases confirmed as paratyphoid fever		0
Cases not confirmed		18

Paratyphoid fever—None.

[a]—Typhoid carriers—Living, 7.

DYSENTERIES REPORTED DURING THE MONTH OF MARCH, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male:	0	0	2	0	1	0	3	0	1	0	7
Female	0	0	0	1	0	0	3	0	0	0	4
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	1	0	0	0	0	0	0	0	0	1
Total:											
Male	0	0	2	0	1	0	3	0	1	0	7
Female	0	1	0	1	0	0	3	0	0	0	5
Grand total	0	1	2	1	1	0	6	0	1	0	12

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	1

Total cases reported within the month in the City of Manila		16
Resident cases	12	
Non-resident cases	4	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases	1	
Deaths among non-resident cases	2	
Reported as:		
Acute dysentery	0	
Amœbic dysentery	0	
Bacillary dysentery	4	
Chronic dysentery	1	
Dysentery	11	
Erroneously reported as dysentery	0	
Total		16

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF MARCH, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		3
Non-resident cases	0	
Foreign cases	0	
Resident case	3	
Resident cases confirmed as cholera	0	
Resident cases not confirmed (found negative)	8	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	

6 Cholera carriers—Living, 4; Dead bodies, 2.

DIPHTHERIA REPORTED DURING THE MONTH OF MARCH, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	1	0	1	0	2	0	0	0	4
Female	0	0	0	0	1	0	1	0	0	0	2
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	1	0	1	0	2	0	0	0	4
Female	0	0	0	0	1	0	1	0	0	0	2
Grand total	0	0	1	0	2	0	3	0	0	0	6

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	1	0	0	0	0	0	1
Female	0	0	0	0	1	0	0	1	0	0	2
Total	0	0	0	0	2	0	0	1	0	0	3

Total cases reported within the month in the City of Manila		12
Resident cases	10	
Non-resident cases (confirmed)	2	
Resident cases confirmed as diphtheria	6	
Resident cases not confirmed	4	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases confirmed as diphtheria	3	
Deaths among non-resident cases	0	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	4	4	1	3
Varioloid	0	0	0	0
Varicella	20	10	0	0
Smallpox	0	0	0	0
Measles	20	11	0	0
Whooping cough	0	0	0	0
Influenza	15	5	2	0
Bubonic plague	0	0	0	0
Beriberi	2	1	2	1
Beriberi, infantile	19	17	19	17
Pulmonary tuberculosis	75	64	60	8
Tuberculosis of all forms	12	10	12	10
Encephalitis lethargica	6	3	1	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	4	2	2
Varioloid	0	0	0	0
Varicella	11	0	0	0
Smallpox	0	0	0	0
Measles	8	1	0	0
Whooping cough	0	0	0	0
Influenza	3	1	1	0
Bubonic plague	0	0	0	0
Beriberi	0	1	0	1
Beriberi, infantile	5	1	5	1
Pulmonary tuberculosis	14	4	4	1
Tuberculosis of all forms	3	2	3	2
Encephalitis lethargica	4	0	3	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF MARCH, 1923

Sera and vaccines	On hand March 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	189,000	....	189,000	189,000	....
Anti-dysenteric serum (ampoules)	47	....	47	....	47
Anti-tetanic serum (units)	400,000	519,000	919,000	519,000	400,000
Cholera vaccine (c.c.)	240	23,685	23,925	19,140	4,785
Dried vaccine virus (units)	600	31,750	32,350	31,950	400
Fresh vaccine virus (units)	158,700	100,000	258,700	153,600	105,100
Gonococcus vaccine (ampoules)	....	10	10	10	....
Mixed cholera-typhoid vaccine (c.c.)	1,960	72,350	74,310	66,260	8,050
Normal horse serum (ampoules)	....	....	....	....	....
Typhoid vaccine (c.c.)	14,130	23,485	37,615	34,135	3,480

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 to 4 years		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	855	218	19	61	33	....	....	279	52
No. 2, Meisic	3,035	194	5	40	32	....	....	234	37
No. 4, Sampaloc	2,590	183	1	60	147	1	....	244	148
No. 5, Tondo	3,507	369	3	97	84	....	....	466	87
No. 6, Paco	557	151	....	66	109	....	....	217	109
Total	10,544	1,115	28	324	405	1	....	1,440	433

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1923

See consolidated table of Mixed Vaccinations in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	440	148	348	74	273	32
No. 2, Meisic	....	....	....	....	....	....
No. 4, Sampaloc	13	1	2	....	9	6
No. 5, Tondo	805	326	230	253	153	359
No. 6, Paco	44	76	46	69	33	45
Total	1,302	551	626	396	468	442

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	231	155	190	110	126	46	974	722	477
No. 2, Meisic	....	....	....	....	....	....	....	....	....
No. 4, Sampaloc	8	1	1	....	16	11	23	3	42
No. 5, Tondo	979	347	334	328	225	395	2,457	1,145	1,132
No. 6, Paco	60	63	60	62	46	59	243	237	183
Total	1,278	566	585	500	413	511	3,697	2,107	1,834

NOTE.—A means adult; C, children.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	1,571	316	1,042	250	649	132
No. 2, Meisic	1,418	60	800	30	966	32
No. 4, Sampaloc	799	204	570	81	230	93
No. 5, Tondo						
No. 6, Paco	288	342	251	256	242	259
Epidemiology Section	3,926	1,671	3,180	1,337	2,656	1,189
Total	8,002	2,593	5,843	1,954	4,743	1,705

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	660	317	549	303	598	176	2,864	2.144	1,555
No. 2, Meisic	1,227	60	1,248	90	1,199	28	2,765	2.168	2,225
No. 4, Sampaloc	815	235	558	88	209	56	2,053	1,297	588
No. 5, Tondo									
No. 6, Paco	395	380	320	328	389	330	1,405	1,155	1,220
Epidemiology Section	3,270	1,585	2,604	1,160	2,455	1,117	10,452	8,281	7,417
Total	6,367	2,577	5,279	1,969	4,850	1,707	19,539	15,045	13,005

NOTE.—A means adult; C, children.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	1,558	48	9	108	71
Albay	36,495	998	409	2,239	752
Antique	1,668	210	78	365	195
Bataan	1,835	81	45	355	120
Batanes	917	11	5	43	16
Batangas	27,974	435	52	2,066	408
Bohol	9,253	200	61	497	214
Bukidnon	1,132	1	1	6	3
Bulacan	12,706				
Cagayan	5,672				
Camarines Norte	502	44	6	23	8
Camarines Sur	5,151	172	101	351	211
Capiz	2,349				
Catanduanes	2,335	202	99	34	76
Cavite	1,786				
Cotabato	3,191	28	20	94	97
Culion Leper Colony	43				
Davao	5,386				
Ilocos Norte	4,779	485	189	668	567
Ilocos Sur	2,562	109	22	254	116
Iloilo	6,786	414	64	552	153
Isabela	1,386				
Laguna	7,804	567	174	915	315
Lanao	4,121				
La Union	4,575	63	28	101	93
Leyte	17,459				
Marinduque	3,288	99	51	179	132
Masbate	2,922	8	3	128	49
Mindoro	1,000	34	13	78	38
Misamis	2,714	216	312	196	280
Nueva Ecija	3,037	972	248	226	181
Nueva Vizcaya	1,183	91	15	214	45
Occidental Negros	3,654				
Oriental Negros	20,996				
Palawan	1,458				
Pampanga	5,553	205	53	251	78
Pangasinan	19,275	2,872	715	2,675	970
Rizal	4,722	267	73	390	124
Romblon	861				
Samar	2,692				
Sorsogon	2,538				
Sulu	2,135				
Surigao	2,040				
Tarlac	40,914	1,029	112	3,752	611
Tayabas	5,465	88	56	165	50
Zambales	595				
Zamboanga	590	55	43	27	44
Total	297,057	10,004	3,057	16,932	6,017

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[1] Compilation of reports received since January.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over[2]		Total	
	Positive	Negative	Positive	Negative
Abra	287	265	694	623
Albay	6,473	3,698	16,017	7,933
Antique	333	373	908	646
Bataan	315	122	1,335	492
Batanes	435	242	489	263
Batangas	3,228	4,910	7,511	6,604
Bohol	950	464	5,331	2,333
Bukidnon	92	154	99	158
Bulacan	...	...	7,370	2,450
Cagayan	...	...	4,282	704
Camarines Norte	157	263	224	277
Camarines Sur	446	355	2,620	1,469
Capiz	...	...	1,351	571
Catanduanes	35	401	549	855
Cavite	...	...	953	350
Cotabato	297	816	478	1,078
Culion Leper Colony	...	...	18	25
Davao	...	...	1,617	3,488
Ilocos Norte	976	1,465	2,129	2,231
Ilocos Sur	391	262	1,433	821
Iloilo	654	163	2,755	793
Isabela	...	...	538	580
Laguna	869	727	4,188	1,956
Lanao	...	...	1,380	819
La Union	141	685	1,221	2,301
Leyte	...	...	8,689	2,298
Marinduque	634	522	1,355	1,081
Masbate	282	466	418	518
Mindoro	153	62	570	225
Misamis	154	194	658	775
Nueva Ecija	90	148	1,773	806
Nueva Vizcaya	235	86	874	297
Occidental Negros	...	...	2,118	1,012
Oriental Negros	...	...	4,450	6,468
Palawan	...	...	871	460
Pampanga	152	156	2,649	1,002
Pangasinan	5,312	2,284	11,789	4,268
Rizal	404	312	2,053	1,413
Romblon	...	...	430	257
Samar	...	...	1,194	938
Sorsogon	...	...	1,187	536
Sulu	...	...	1,090	810
Surigao	...	...	915	715
Tarlac	6,996	6,057	18,626	11,977
Tayabas	623	242	3,253	1,405
Zambales	...	...	184	411
Zamboanga	27	74	261	279
Total	31,141	25,968	130,897	77,766

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[1] Compilation of reports received since January.
[2] Taken from Provincial Form No. 70.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	484	205	5	...	...	...
Cebu	161	66	151	26	...	...
Laguna	41	102	3	...	...	...
Pangasinan	2	45	1	1	...	...
Tayabas	201	168	...	...	...	...
Total	889	586	160	27	...	...

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[1] Compilation of reports received since January.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	314	120	4	......	......	......	1,123	9	......
Cebu	100	60	81	15	......	......	387	273	......
Laguna	19	60	......	......	......	......	222	3	......
Pangasinan	5	42	1	1	......	......	94	4	......
Tayabas	218	123	......	......	......	......	710	......	......
Total	656	405	86	16	......	......	2,536	289	......

[1] Compilation of reports received since January. Other reports not yet received.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C
Abra	1	11	1	10	1	8
Catanduanes	2	......	2	......	......	......
Ilocos Sur	802	102	512	49	277	200
Laguna	85	35	63	23	43	22
Nueva Ecija	8	......	......	......	......	......
Pampanga	430	316	354	204	276	191
Pangasinan	831	719	590	556	487	507
Tayabas	17	......	12	......	......	......
Total	2,176	1,183	1,534	842	1,084	928

Provinces	Number of persons vccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	1	10	1	11	1	8	23	23	18
Catanduanes	6	......	6	......	......	......	8	8	......
Ilocos Sur	548	59	371	71	276	168	1,511	1,003	921
Laguna	103	37	62	21	28	12	260	169	105
Nueva Ecija	3	......	5	......	......	......	11	5	......
Pampanga	458	340	327	268	279	228	1,544	1,153	974
Pangasinan	721	626	551	472	469	413	2,897	2,169	1,876
Tayabas	18	5	12	1	......	......	40	25	......
Total	1,858	1,077	1,335	844	1,053	829	6,294	4,555	3,894

[1] Compilation of reports received since January. Other reports not yet received.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra		11	6	115		
Antique	137	119	143	124	28	19
Bataan	196	23	87	11		
Bohol	12		12			
Ilocos Norte	295	292	251	60		
Ilocos Sur	75	60	73	60		
Iloilo	33	31	47	16		
Laguna	96	50	8	49		
Lanao	40	15	5	8		
La Union	381	279	231	75		
Marinduque	64		40	48		
Masbate	178	95	215	48		
Misamis	1	3				
Nueva Ecija	45	23	62	30	44	23
Nueva Vizcaya	84	89	68	43	15	35
Pampanga	252	227	17	28		
Pangasinan	31	16	1	2		
Tarlac	14	29	8	18		
Tayabas	290	104	46	20		
Zamboanga	44	8				
Total	2,268	1,474	1,374	750	87	77

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra		3	6	84			14	211	
Antique	116	127	101	96	7	31	499	464	[illegible]
Bataan	100	38	66	13			357	177	
Bohol	17		17				29	29	
Ilocos Norte	212	222	104	73			1,021	488	
Ilocos Sur	12	27	12	27			174	172	
Iloilo	24	11	34	7			99	104	
Laguna	34	13	10	53			193	120	
Lanao	3	1	3				59	16	
La Union	342	220	170	77			1,222	553	
Marinduque	60	1	34	44			125	166	
Masbate	58	68	76	65			899	404	
Misamis	5	5					14		
Nueva Ecija	30	24	50	13	17	8	122	155	92
Nueva Vizcaya	36	74	33	57	3	33	283	211	86
Pampanga	246	199	72	36			924	207	
Pangasinan	25	17	3	4			89	10	
Tarlac	36	20	7	10			99	38	
Tayabas	255	87	50	11			736	127	
Zamboanga	18	7					77		
Total	1,629	1,164	848	680	27	72	6,535	3,652	263

[1] Compilation of reports received since January.

Other reports not yet received.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF MARCH, 1923

Province and towns	Cases	Deaths
Mindoro:		
Calapan	2	2
Canubing	1	....
Total	3	2

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF MARCH, 1923

Province and town	Case	Death
Mindoro:		
Pinamalayan	[a] 1	[a] 1
Total	[a] 1	[a] 1

[a] Suspect only.

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY O MANILA, DURING THE MONTH OF MARCH, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending January, 1923:						
Minor	26	......	19	30	15	90
Sewer	11	39	18	5	3	76
Vacating	3	14	7	......	9	33
Filling	5	2	13	6	5	31
Total	45	55	57	41	32	230
Orders issued during the month:						
Minor	11	9	6	11	2	39
Sewer	......	5	3	......	3	11
Vacating	......	......	......	2	......	2
Filling	......	......	......	......	......	......
Total	11	14	9	13	5	52
Grand total	56	69	66	54	37	282
Orders completed during the month:						
Minor	9	8	5	4	2	23
Sewer	......	8	3	......	......	6
Vacating	1	......	......	......	3	4
Filling	......	......	......	1	......	1
Total	10	6	8	5	5	34
Orders cancelled during the month:						
Minor	......	1	......	......	......	1
Sewer	......	1	......	......	......	1
Vacating	......	......	......	......	......	......
Filling	......	......	......	......	......	......
Total	......	2	......	......	......	2
Orders pending February:						
Minor	28	5	20	37	15	105
Sewer	11	40	18	5	6	80
Vacating	2	14	7	2	6	31
Filling	5	2	13	5	5	30
Total	46	61	58	49	32	246
Strong materials, plans approved:						
New buildings including additions and alterations	29	13	31	60	25	158
Permits for minor building constructions:						
Approved	19	17	23	23	17	99
Disapproved	1	3	......	5	3	12
New buildings completed	11	9	11	23	5	59
Light and mixed material construction:						
Permits approved	......	......	27	8	13	48
Permits disapproved	......	......	2	2	7	11
Total number of building projects passed upon	60	42	94	121	70	387
Prosecutions:						
Convictions	......	1	......	......	......	1
Dismissals	......	......	......	......	......	......
Amount of fines	......	₱5.00	......	......	......	₱5.00
Plumbing permits issued	31	34	41	54	13	173
Plumbing projects completed	27	30	27	37	11	132
Premises connected to the Sanitary Sewer to February, 1923	1,646	2,823	1,033	550	410	6,462
Premises connected during March, 1923	5	4	9	3	1	22
Total	1,651	2,827	1,042	553	411	6,484

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Sta. Mesa.
Paco includes Pandacan and Santa Ana.

DEC 26 1923

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III APRIL, 1923 No. 4

The keystone of a nation's progress is sanitation and education

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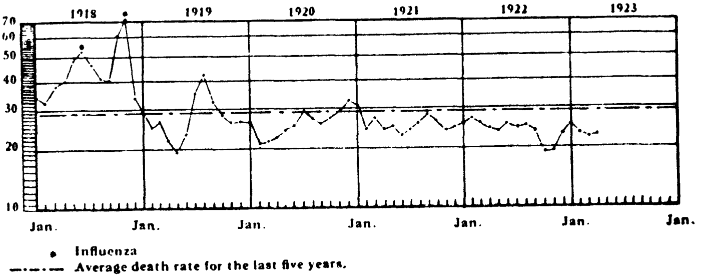

MANILA
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1923

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III APRIL, 1923 No. 4

THE "HILOT" AND "SALAG" VERSUS PRACTICING PHYSICIANS AND HEALTH WORKERS

By TEOFILO CORPUS, M. D.
Medical Inspector, Philippine Health Service

The "hilot" is the midwife, and the "salag," her assistant. The midwife has existed since time immemorial. The first two midwives are found in the Bible: Shiphrah and Puah. The present generation believes that the midwife is a relic of barbarism. In the civilized and educated countries, the institution of the midwife is wrong. In the Philippines, she has always been wrong.

The actual unlicensed midwife is hopelessly dirty, ignorant, and incompetent. She practices her unscientific maneuvers in the most septic procedures that could be imagined. Only a small percentage of this class of midwives can be classified as capable and reliable.

In the United States, 40 per cent of all deliveries are attended by midwives. Of all practicing midwives, 90 per cent are ignorant and incapable, and only 10 per cent can be considered safe. In the City of Manila in 1921, 10.4 per cent of all births were attended by licensed midwives. There is no record available as to the number of births attended by unlicensed midwives in this city as well as in the provinces, which is believed to be very high.

Notwithstanding this fact, the unlicensed midwife flourishes and competes more than successfully with doctors, nurses, and even with the licensed ones. Unfortunately, the community seems to demand her service. She exists everywhere because the people want her.

And the midwife is better patronized! A woman employs her, because she is cheaper than the doctor. She not only delivers a woman, but sometimes bathes the mother and baby, and takes care of other children in the household; she often acts as housekeeper and cook also.

Again many people are too poor to call a doctor or nurse. A poor family in the remotest barrio often needs their service, but they could not get them at the time they are wanted, or sometimes they would not go. But the midwife is almost always available and ready at any time. For this reason, the midwife monopolizes the patronage of the ignorant many. The total number of graduate nurses is not sufficient to oust them successfully, since the towns and barrios do not give them financial attraction and satisfaction.

The condition looks better in the City of Manila. With its many hospitals, public dispensaries, charity institutions, doctors and nurses, the service of the midwife is seldom needed. It must be admitted, however, that some families living in the city and coming from the provinces prefer the service of the midwife.

But the midwife goes ahead in her work, not conscious of the trouble she causes and of the high mortality and morbidity among the pitiful mothers and babies. It is not her fault entirely that she is allowed to practice midwifery and to shoulder such a direful responsibility. Are we willing to perpetuate this midwife evil?

Now, then, as medical practitioners and health workers, shall we take a jump backward into midwifery? Shall we not look for the benefits of improved conditions so that the mortality and morbidity of our women and babies may approach a tolerable minimum? Or shall we close our eyes, allow the midwife to practice, sacrifice the lives of these women and babies, and hope for better times in the not distant future?

The problem that confronts us now is this: Can we abolish the midwife evil at the present time? If we can abolish it, what shall we substitute to take its place? If we can not abolish it, what are we to do to minimize the danger it causes the public?

The answer is negative and the midwife is here to stay with us for sometime. Many health officers seem to favor her existence in the absence of a sufficient number of trained nurses to take her place now. But the Philippine Health Service can make some provision for the proper regulation, supervision, and control of the midwife. The most satisfactory way is to recognize her art, place her under control, and educate her. Make the educational requirement so high that only intelligent midwives shall remain to practice. How can this reform be accomplished?

Some medical authorities believe that unprepared persons can not be educated sufficiently in all midwifery matters in one or even two years. Some also state that it is impossible to educate untrained women to become midwives in courses of three or six months of instruction. However disheartening the outlook may be, an attempt to educate her in a course of at least six months must be made to find a solution.

The work of instruction shall be under the charge of the District Health Officer, the Presidents of Sanitary Divisions, and the District Nurses. During the first three months, the work shall include instruction on the care of the mothers and babies. During the second three months, the student midwives shall deliver patients under the supervision of the District Nurse. The student midwife, upon completion of the course, must have delivered a minimum of twenty cases. One thing should be instilled in her gray matter: "the knowledge of what not to do, and when to seek the aid of a practicing physician." At the end of the course, the health officer may reject or allow her to practice as the case may be. A course like this should be given once every two years to make sure that the midwives are keeping abreast of the times. The health officers should keep a complete list of the practicing midwives in his vicinity. Practicing midwives, not licensed by the health officers, shall be punished accordingly by law.

During the field work of the midwife, she would be supervised by the local health officer. This requirement implies going to the homes of the midwife's patients and observing the actual conditions of the mother and child. The far-away barrios should be visited regularly. The provincial assistant sanitary inspectors may do this work after they receive the proper instructions on the matter from the health officer concerned, altho the health officer himself may be able to do the work better.

Along with this task, the hospitals should be requested to give courses in midwifery so that the number of trained midwives may be increased from time to time. The Public Welfare Commissioner and his agents should give their full coöperation in this matter so that one of the causes of the high infant mortality may be destroyed.

It must be remembered by all concerned, however, that what we desire we do not get in a day or a week or a month. Many times we are too impatient. To eradicate that which has been inherent in the Philippines—such is this persistent problem of midwifery which needs for its solution slow but steady work on our part.

INFLUENCIA DEL APARATO BUCO-DENTARIO SOBRE EL ESTADO GENERAL

Por el Dr. BARTOLOMÉ REYES
Dentista Provincial

A la aparición de una lesión dentaria, corresponde la alteración del medio bucal normal, porque la afección bucal repercute en la economía general. Esta doble influencia recíproca, generatriz y generada, registe gran interés, porque hace inseparables, en muchos casos, gran número de enfermedades generales y ciertas manifestaciones bucales que derivan de un mismo origen.

Las alteraciones de los dientes repercuten sobre la economía: primero, por omisión, y, segundo, por acción.

Por omisión.—La omisión se observa en las alteraciones digestivas de mecánico origen.

La mayor parte de los alimentos, sobre todo, los vegetales se recubren de cáscara o cosa por el estilo que debe ser triturada para que los jugos gástricos actúen sobre ellos. Según el Doctor Oudet, ello es tan cardenal que su infracción cause trastornos más o menos importantes en las funciones digestivas. Si en estado de salud tal influencia se deja sentir a veces, que será cuando el estómago o los intestinos fueran asiento de alguna lateración? Las substancias que llegan a estos órganos, sin una previa masticación adecuada, provocan en ellos aumento de esfuerzo que agrava necesariamente su morbosidad; de aquí que el médico deba tener en cuenta la clase de masticación en los clientes de vías digestivas afectadas.

Hay autores, entre ellos Reaumé y Spellanzine, que no dan la debida importancia al cuidado de la cavidad bucal.

Toda persona que mastica mal por la ausencia total o parcial de dientes padece impotencia parcial de la mandíbula resultante de lesión dentaria, como la pulpitis, periodontitis, y es, por regla general, dispético.

Debida a esta causa directa de alteración económica general, los accidentes dentarios constituyen un peligro por la solución de continuidad que lesionan al recinto orgánico y de la superficie de protección de cutánea mucosa.

No es extraño el papel importante que desempeña las caries dentarias como generadores de infecciones graves. Guyot considera la artritis como una infección parasitaria, y Galippe ha hallado siempre este microorganismo (enterecoco) en la boca de los pacientes atacados de piorrea alveolar, y en la boca de las personas sanas, utilizando la tuberculósis esta vía con frecuencia.

Durante la conflagración mundial, se ha encontrado un 35 por ciento en el baccilo tuberculoso de los gánglios linfáticos y en los dientes correspondientes que parecían haber provocado este adenitis. De aquí la importancia que tienen desde el punto de vista profilático, la obturación o extracción de los dientes ó raíces enfermos.

Por acción.—Por esta causa el estado patológico del aparato bucal que desarrolla sus efectos más o menos nocivos, de un modo deplorable y común, es de origen generalmente infeccioso.

Septicidad bucal.—Los trastornos que causan en el organismo las lesiones dentarias tienen lugar, ante todo, en la boca y en particular en las encías, siendo la estomatitis eritematosa la primera manifestación. En la encía se produce también la virulencia microbiana debida a la absorción de productos tóxicos, como el fósforo, plomo, mercurio, arsénico, etc., apareciendo tras la infección buco-dentario la adenitis dentro del territorio linfático correspondiente.

La forma puede ser más o menos grave, en forma de flemón circunscrito o difuso; en algunos casos, cuando la infección parte de la región incisiva, pueden ocurrir accidentes de septicemia generalizada y aguda. Son más frecuentes las lesiones oseas (osteitis, osteomilitis) los abscesos cutáneos, el flemos difuso del suelo de la boca. Se nota también, vía ascendente, al infección de los conductos salivales o bien de las glándulas (parotiditis). Opinión aceptada en la estomatología es que la mayor parte de las lesiones imflamatorias de la región servisio facial son de procedencia dentaria.

Voy a hablar de cosas comunes y de observación cuotidiana, como la adenitis submaxilar de origen estrictamente dentario, diagnosticadas tuberculosas pero que suprimida la causa dentaria se curan radicalmente. Cuantos enfermos de otalgia han sido irrigados o insuflados con una extracción oportuna de la raíz o el debido tratamiento de la pulpa enferma, y así los habría inmediatamente curada? No creen Vdes. que la asepcia de la boca es el más importante en toda intervención quirúrgica? Como se concibe que cirujano ponga tanto cuidado en la esterilización preopeatoria y descuida, en cambio por completo, el microbismo vocal, siendo que precisa la más estricta vigilancia, sobre todo una estricta asepcia? Y cuando se trata de una operación en dicha cavidad bucal, lengua, maxilar, garganta, o bien en el estómago o intestino, no es clásico dar al operado alimentos bien esterilizados, especialmente la leche?

Un 35 por ciento de las neuralgias es de origen dental. Sea este origen aparente o no, lo cierto es que el estomatólogo encuentra casi siempre que la causa real es la boca. Sin embargo, cuantas neuralgias diagnosticadas como tales atiborran al enfermo de medicamentos o se le intoxica con toda una farmacecopea empírica, mientras la causa dentaria pasa desapercibida o cuando mucho, combatida casualmente?

Caso de septicemia de origen buco-dentario.—Pascual Camua, de 41 años de edad, vecino de Dampol, Quiñgua, casado, de oficio labrador, se presentó en mi clínica quejándose de dolor de cabeza y una alteración gastrointestinal (diarrea verde), de adelgazamiento progresivo, y calculaba que por su enfermedad perdió unos ocho kilos. Había tratado por un facultativo.

Por la boca estaba en mal estado, el aliento fétido, la lengua saburosa, faltando muchos dientes, algunos cariados y otros simples restos, encía hinchada y fungosa manando pus que dicho señor deglutía inconscientemente. Pensé cepticemia de origen buco-dentario y le explique la inmediata intervención por el mal estado de los dientes. Extraí los dientes en mal estado dándole por alimentos leche hervida y le puse inyecciones de cacodilato de sosa diaria, un colutorio de Dakin, y una solución de silbol al 20 por ciento. A los días volvió a mi clínica bastante mejorado; el color casi natural, sueño mejor, y con buen apetito. Entonces como la boca estaba ya preparada, le dije que le era conveniente un aparato protésico. Dicho y hecho; a los 15 días articulaba perfectamente el aparato. A los dos meses el propio paciente se extrañaba de que fuera más gordo que antes.

Caso de reumatismo articular.—María Figueroa, de Guiguinto, Bulacán, de 32 años de edad, casada, se quejaba de reumatismo de tres años. Tenía uno de los molares de la mandíbula inferior izquierdo con un carie de cuarto grado complicado, y con fungos en medio. Se resistía a la extracción porque no sentía dolor en la muela. Convencida al fin, procedí a la extracción inmediata. A los nueve días ya no se quejaba de reumatismo.

Caso de otitis.—Severina Bernabé, de Pulilan, Bulacán, de constitución fuerte y robusta, se me presentó quejándose primeramente de una muela que se cortó en la extracción hecha por un intruso que se valió de una especie de alicates, diciendo que a la noche sintió dolor fuerte en la oreja con ruidos molestos. Al cuarto día tuvo fiebre y no podía abrir la boca ni tolerar el más leve tacto del condilo. Extraí entonces la raíz molesta lavándola con solución de Dakin aromatizado. A los dos días volvió a mi clínica y no se quejaba ya del dolor de la oreja.

Caso de tifus.—El Sr. Pedro Siochi, eminente ingeniero, padeció de fiebre por más de 19 días, con dolor intenso en la cabeza, y diagnosticado tifoídico. Como especialidad era las enfermedades de la boca, le mandó abrir la boca, le examiné, y encontré que los cinco puentes de oro que tenía puestos venían alterados de color por la reacción de la saliva. La apariencia de las infecciones sin embargo no era la de un tifoídico. El Gobernador que me acompañaba, que era médico, creía presenciar un caso de malaria. Le aconsejé que se quitase los puentes de oro y se mandase extraer los raigones que los puentes ocultaban y oprimían. Dicho y hecho; a los tres días estaba convaleciente.

Casos de amigdalitis en los escolares.—Raro es el niño de seis a 12 años de edad que no padezca de Amigdalitis avanzada, o irritación en ambos lados de la laringe, y ello se debe al descuido de los padres y del propio paciente en la limpieza de la boca y los dientes, porque siempre encontraba los dientes temporales movidos y fuera de sitio por la irrupción del diente permanente, y por no extraerse aquellos a tiempo se convertirán en asilo de microbios además de afear el rostro por la mala alineación de los dientes permanentes.

Caso de fiebre.—El Sr. Rufino Palma, de 21 años de edad, estudiante de ingeniería, sintió fiebre por nueve días. En los primeros tres días, la fiebre osciló entre 37½ a 38 y él se quejó de dolor de cabeza. Del cuarto al noveno día, la fiebre osciló entre 38 y 39, y se quejó de un calor extraño del cuello para arriba. El que le asistía, mi amigo el Doctor Santiago, como medida preventiva trató el caso como de tifus. Al décimo día el Doctor Santiago observó que su paciente tenía hinchada la encía y sangraba con un poco de pus, y me llamó. Con el tacto comprendí que se trataba de una mala irrupción de una muela de juicio y dilaté la parte de la encía que cubría y obstruía la salida de la muela; hecho esto, instantáneamente desaparecieron la fiebre y el dolor de la cabeza.

Puede multiplicarse los casos presentados, pero en gracia a la brevedad, bastará decir que durante los nueve meses que he venido asistiendo oficialmente a los escolares de Bulacán, he llegado a tratar más de 4,000 casos; y puede decirse que no sólo es una epidemia la lesión bucal, sino que la mayor parte de las enfermedades que aparecen desde la edad de 13 años arriba débense, como se ha visto, a la negligencia en la limpieza de la boca y los dientes y a la falta de debido tratamiento de los pacientes y que posiblemente han dado lugar a una mortandad mayor que la infantil. Si a la mortalidad infantil, a la tuberculosis, y a las cuestiones de higiene se ha venido dando la atención que se merecen, con igual o mayor atención debería darse también a las infecciones bucales tanto de los niños pubescentes como las personas mayores. Qué importa la intención por una educación esmerada si ella no puede completarse, o completándose no podría utilizarse por falta de salud y hasta por ser prematura?

Cuando en Filipinas se dé la debida importancia a esta ciencia en su aplicación práctica como en los Estados Unidos, de fijo que tendremos aquella misma robustez de la raza norte-americana, y tal vez, su prosperidad. Si en los portales de las basílicas y palacios se concentran las conquistas de la ciencia y del arte plástico o decorativo, con mayor razón deberá concentrarse en el período del más bello tipo de la creación, el hombre y para quien se crearon todas las cosas.

DOCTOR MUNSON'S TALK AT THE PHILIPPINE CHAMBER OF COMMERCE

Dr. E. L. Munson, Adviser on Health, addressed the Chamber on the subject of "The Need of Provincial Hospitals." He called attention to the fact that the prosperity of the members of the Philippine Chamber of Commerce depended upon the prosperity of the provinces by producing the articles in which they traded and by furnishing the customers to whom the goods are sold. He said that in very extensive travels thru the Islands, the things that particularly impressed him were the almost untouched resources of the Islands which needed man-power to give them value. The people of these Islands are its greatest asset, and yet, means to preserve this asset are sadly lacking. The human machine, like any other machine, needs to be cared for and repaired, and the Islands lack institutions in which this work may be done.

There are now twenty-four provinces without any hospital facilities whatever, and there are thirty-two provinces in which the Government does not provide hospital facilities. There are eight provinces in which there are mission hospitals or similar private institutions. More than six and a half million people, or more than one-half of the population of the Islands are not provided for by the Government in respect to hospitals.

Doctor Munson described the plan which had been very carefully worked out by which these hospitals can be built in various stages, beginning in a small but adequate way and expanding the hospital as needs required and money is provided. Under this plan, a continuing appropriation of ₱300,000 a year is to be provided by the Insular Government, and provinces are to aid in the hospital construction and equipment on the "fifty-fifty basis." Lack of funds on the part of the provinces is no bar to the carrying out of the plan, for a hospital fund is to be provided by requiring that 4 per cent of the provincial income should be annually set aside for a hospital building fund until such time as an adequate hospital has been constructed. By starting in with the small construction required for dispensary and emergency purposes, the initial cost will only be ₱12,500, so that a province with as little an amount as ₱6,000 or ₱7,000 can at once start on this construction.

A bill for this purpose was introduced in the Legislature by Representative De las Alas, of Batangas, and was numbered 552 in the Sixth Philippine Legislature. This bill establishes a hospital policy for the Philippines which will meet all needs for the next fifty years and which will result in letting every province have adequate medical and surgical facilities within a very brief period. Doctor Munson stated in his talk to the Chamber of Commerce that the plan provided in this bill would be equitable, practical, and economical.

RELIEF WORK AT NAVOTAS

The fire at Navotas on January 2, 1923, well illustrates how speedily relief work thru Governmental and private agencies can be brought within the reach of sufferers from public calamities. Following close on the disaster, whereby about 800 houses were destroyed and more than 4,000 people were rendered homeless, the Army and the Constabulary, the Philippine Health Service and the Red Cross, and last but not least, the local authorities themselves, all joined hands in extending aid to the afflicted.

The destitutes were furnished shelter and sanctuary with tents and cots from the Army, with food and clothing from the Red Cross. The Constabulary saw to the preservation of order and the carrying out of other police duties; the Philippine Health Service attended to the preservation of health and the maintenance of sanitary conditions in the burned area and its vicinity.

The various phases of relief work had to be coördinated, and, for this purpose, the Governor-General assigned Colonel E. L. Munson as his field representative, and entrusted him with the direction of the measures called for by the emergency. The undertaking, vast and delicate as it was, was carried out in accordance with the plan outlined in the accompanying memorandum prepared by Doctor Munson.

Suffering was at once ameliorated, order was established and maintained, no outbreak of communicable disease was reported, and none was to be expected. No efforts were spared to ease the affliction of the fire victims, and all the agencies concerned in relief work effectively responded to the anguished call of humanity in distress.

Photographs depict the tents which were actually erected first on burnt ground: a Philippine Health Service Comfort Station, and a Philippine Health Service Emergency Hospital, where treatment was given to minor and emergency cases and medicine was furnished free of cost.

The Philippine Health Service had its doctors and sanitary inspectors on the ground during the fire, and its hospital was straightway in operation while the members were still smouldering.

MEMORANDUM PREPARED BY DOCTOR MUNSON

NAVOTAS, *January 3, 1923*

1. The undersigned represents the Governor-General in respect to the fire relief work in Navotas.

2. The Constabulary should patrol the burnt area, preserve order, keep the roads free, and prevent depredations.

As soon as possible, the Constabulary should be released and the municipal police take over their work.

3. Shelter where necessary is available in the tents and cots provided by the Army. These tents may be erected on the lots of householders. The sites should be thoroughly cleared, the refuse piled and removed as soon as possible to points designated by the health officer.

4. Construction of new houses should be accomplished as soon as possible.

The Municipal President agrees to take measures whereby the house owners may secure building materials at reasonable cost.

An ordinance should be passed whereby new construction will afford wider road space and much space about the new houses.

5. It is essential that facilities for disposal of excreta be immediately established.

Any person not using them should be severely punished. If necessary, an ordinance should be passed to that effect.

The Philippine Health Service will provide a reasonable number of receptacles for temporary use. They should be raplaced as soon as possible by Antipolo closets.

6. Water for drinking is available from the artesian wells. The use of water for drinking from the shallow wells should be prohibited.

7. The Red Cross will supply the necessary food and clothing for the indigent, and will establish distributing centers for that purpose.

8. The Philippine Health Service will establish a dispensary in the burned area for the treatment of minor and emergency cases. The nurses will be supplied by the Red Cross. Serious cases should be transferred to hospitals in Manila.

9. The Municipal President is to make a list of all persons living on the burned area, and place this list at the disposal of the Red Cross, the Philippine Health Service, and the Constabulary.

This list is necessary for police and sanitary purposes, and for preventing unauthorized persons from receiving supplies.

10. The occurrence of disease is especially to be guarded against.

The Philippine Health Service will take the following measures:

(*a*) Divide the burned area into districts and assign a sanitary inspector to each district. Each sanitary inspector should handle not more than 800 people.

(*b*) Every person in the burned area is to be inoculated against cholera and typhoid fever without delay. After that preliminary measure, unprotected persons in Navotas generally should be so inoculated.

(*c*) Persons unprotected against smallpox are to be vaccinated.

(*d*) The careful collection and disposal of refuse is to be enforced, so as to limit the production of flies.

E. L. MUNSON

THE AMERICAN RED CROSS

PHILIPPINES CHAPTER
MANILA, PHILIPPINE ISLANDS

January 16, 1923

Colonel E. L. MUNSON
Philippine Health Service
Manila, P. I.

MY DEAR COLONEL MUNSON:

Please note a copy of the resolution adopted today by our Health and Nursing Committee. Copies of this resolution with accompanying letter have been forwarded to the following:

Mr. Quezon, President of the Senate.
Mr. Roxas, Speaker of the House of Representatives.
Mr. Osmeña, Leader of the minority party.
Chairman of the House Committee on Sanitation and Hygiene.
Chairman of the Senate Committee on Sanitation and Hygiene.
Mr. Antonio de las Alas.
Dr. Eugene A. Gilmore.
Dr. Vicente de Jesus.

Yours sincerely,

KNOWLTON MIXER
Manager

RESOLUTION ADOPTED BY THE HEALTH AND NURSING COMMITTEE, AMERICAN RED CROSS, AT ITS MEETING, JANUARY 16, 1923

WHEREAS there are now 24 provinces without any hospitals, and a total of 32 provinces with some 6,500,000 people in which the Government has not provided any hospital facilities;

WHEREAS it is believed that Bill No. 552, Sixth Philippine Legislature, introduced by Representative Antonio de las Alas, offers a practical and economical solution of this problem, both for immediate needs and future development;

WHEREAS the American Red Cross has long felt the need of such facilities in the provinces, and has recognized that the establishment of such hospitals is a Government function; and

WHEREAS it believes that the health and well-being of the provinces will be materially augmented by the enactment of this law;

THEREFORE, BE IT RESOLVED that the Red Cross strongly recommend to the legislators that they give favorable consideration to this Bill and that its enactment into law be accomplished with as little delay as possible.

PHILIPPINE ISLANDS

The Philippine Health Service has undertaken recent advances in administration, vital statistics, communicable diseases, sanitary engineering, laboratories, child-hygiene, public health education, public health nursing, venereal diseases, foods and drugs, and miscellaneous activities including the treatment of leprosy and the establishment of hospitals and clinics.

Administration.—All the regular provinces, under the Division of Provincial Sanitation, have established a uniform health organization and administration, viz., that each province, which, from the point of view of public health administration, is under the supervision of a district health officer, has been and is sub-divided into sanitary divisions, each having in charge a medical officer of the Service.

Vital statistics.—The report of this Division, trimestral since 1906, has been, beginning July, 1921, issued monthly and incorporated in the Monthly Bulletin of the Service.

Since the beginning of 1921, the certificate of death has been changed to the standard one used in the United States.

The morbidity and mortality rates for smallpox, cholera, typhoid fever, dysentery, and influenza show a reduction in these diseases during 1921. This diminution has been perhaps partly due to the active general vaccination campaign undertaken by the Service.

Sanitary engineering.—New advances have been made in the establishment of more water-systems for pure water for drinking and house use, and the proper maintenance of those systems already existing. An active campaign has been carried on for the establishment, in various towns, of sanitary conveniences for the proper disposal of excreta. For this purpose, the so-called Antipolo system has been extended throughout the Archipelago. A system for the adequate disposal of waste and garbage in various provinces and municipalities has been installed.

Laboratories.—Besides the 21 laboratories in existence, there have been established in 1921 several others in the provinces, including those of Sulu and Mindanao. These laboratories have the same function as any public-health laboratory.

The clinical laboratory, established last year in San Lazaro Hospital for infectious diseases, was developed during 1921 with a view to undertake experimental work along such lines as pertain to the modern treatment of leprosy, the bacteriological investigation of problems connected with infectious diseases, the extensive examination of various specimens, the detection of carriers, etc., besides the routine work for the confirmation of clinical diagnoses. In this laboratory, there have been trained technicians who are to be sent to public health laboratories in various provinces.

Child hygiene.—(*See* PUBLIC HEALTH NURSING.)

Public health education.—Active educational campaigns through various agencies, in the form of public conferences, lectures, cinematographic demonstrations, pamphlets, news items, etc., have been and are being carried out through the efforts of a special unit of the Service; viz., the so-called Healthmobile.

Beginning July, 1921, instead of the quarterly reports of the Service, the Health Bulletin was issued monthly, containing original articles on sanitary matters, editorials, news, appointments, promotions, vital statistics, review of literature, etc., for the instruction and information of the public.

Public health nursing.—In Manila as well as in the provinces, the work of the district nurses has been increased to meet the existing demands and needs of the people. The nurses have been, in a large measure, concerned primarily with activities connected with maternity care (pre- and post-natal), infant hygiene, prevention and cure of beriberi, both infantile and adult, the registration of births and deaths, etc.

On July 1, 1921, there were established in the City of Manila and elsewhere health centers for the education of actual and expectant mothers in matters of personal hygiene and sanitation, for the physical examination of children less than two years of age, and for the medical treatment of patients not under the care of private physicians.

Venereal diseases.—One more venereal disease clinic was established in the City of Manila in 1921, so that now there are three in all. These three clinics have accomplished much as regards the education of the public in sex-hygiene and the prevention and cure of the diseases resulting from immoral habits.

Foods and drugs.—Special attention was given, during 1921, to the manufacture and sale of "milk sherbet," and the importation of fruits and vegetables from China. (NOTE.—"Milk sherbet" is in the form of ice-cream made entirely from evaporated milk and has a minimum standard of 6.5 per cent milk fat. If fruits or nuts are added, the standard is reduced to 5.50 per cent.)

Miscellaneous.—The investigation regarding the chemo-therapeutics of chaulmoogra oil derivatives as well as other preparations, believed to be of value in the treatment of leprosy, was entrusted to the hands of a special committee. The experiment was and is still being undertaken at two places; viz., (1) in San Lazaro Hospital, and (2) in the Culion Leper Colony. The work is not yet completed; however, there seems to be the prevailing impression that the results, so far obtained, have been gratifying.

To meet the growing needs of the people, several hospitals have been established, such as the emergency hospitals in the capital of the provinces of Romblon and Iloilo.

The extensive anti-cholera vaccination campaign has been continued. Similarly, intensive measures have been taken to safeguard the public from smallpox, typhoid-fever, dysentery, malaria, and infantile beriberi.

Te establishment of clinics for the treatment of yaws, tropical ulcers, and other skin diseases, in various places where a majority of the cases occurred, was in 1921 one of the important activities of the service.

TABLE I.—*Recent activities reported by health organizations for 1922*

State, territory or province	A.	V. S.	C. D.	S. E.	L.	C. H.	P. H. E.	P. H. N.	T.	V. D.	F. D.	R.	M.
Hawaii	×	.....	.....	.....	.....	.....	.....	.....	.....	×	.....	.....	.....
Illinois	×	×	×	×	×	×	×	×	×	.....	.....	.....	×
Indiana	×	.....	.....	.....	.....	×	.....	×	.....	.....	.....	.....	×
Kansas	.....	.....	.....	×	×	.....	×	.....	.....	×	.....	.....	.....
Louisiana	×	×	.....	.....	×	×	×	×	.....	×	×	×	.....
Massachusetts	.....	.....	×	×	×	×	×	.....	.....	.....	.....	.....	.....
Michigan	×	×	×	×	×	×	×	×	.....	×	.....	.....	.....
Minnesota	.....	.....	×	×	.....	.....	.....	.....	.....	×	.....	×	.....
Montreal	×	.....	×	×	×	×	×	.....	×	×	.....	×	.....
New Mexico	×	×	.....	.....	.....	×	.....	×	.....	×	.....	.....	×
New York	×	.....	×	×	.....	.....	×	.....	.....	.....	.....	.....	.....
North Carolina	×	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Dakota	.....	×	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nova Scotia	.....	.....	.....	.....	.....	×	×	.....	×	×	.....	.....	×
Pennsylvania	×	×	.....	×	×	×	×	×	×	×	×	×	.....
Philippine Islands	×	×	.....	×	×	×	×	×	.....	×	×	.....	×
Porto Rico	.....	.....	.....	.....	.....	×	.....	.....	.....	.....	.....	.....	.....
Rhode Island	.....	×	.....	×	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tennessee	×	.....	.....	.....	.....	.....	.....	.....	×	.....	.....	.....	.....
Washington	×	.....	×	×	×	×	×	.....	.....	.....	.....	×	.....
Totals (20)	13	8	7	11	9	12	11	7	5	10	3	5	5

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of April, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA POR THE YEAR 1923 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts—	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, APRIL, 1923

Date	Pressure (mean) [1]	Temperature						
		In shade [2]					Underground	
							0.50 m	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	760.05	26.1	35.1	5	17.2	2	28.5	29.0
11-20	58.24	27.9	35.6	19	21.9	12	29.5	30.1
21-23	58.38	28.1	36.1	29	21.8	25	30.0	30.6

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	72.0	78.4	9	62.7	1
11-20	70.0	73.5	15	66.8	17
21-23	67.2	70.9	22	63.3	26

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, APRIL, 1923—Continued

Date	Wind				Atmidometer[2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SE	1,836.0	213.5	2	53.0	7.2	4
11-20	E	1,927.0	222.0	19	60.4	7.0	17
21-31	SE	2,173.0	238.0	26	68.5	7.6	25

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	87-55	11-05	10	13.5	2
11-20	98-05	10-35	11	0	0
21-23	88-05	10-50	23	0	0

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birthrate per 1,000
Americans	4	6	10	38.85
Filipinos	599	580	1,179	51.70
Spaniards	2	1	3	18.68
Other Europeans	2	2	4	43.25
Chinese	18	25	43	29.32
All others	8	5	13	72.40
Total and average	633	619	1,252	50.16

BIRTHS BY DISTRICTS

Health districts—	Legitimates			Illegitimates			Grand total	Annual birthrate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	89	82	171	11	9	20	191	62.24
No. 2, Meisic	81	85	166	5	7	12	178	20.82
No. 4, Sampaloc	136	125	261	5	9	14	275	67.88
No. 5, Tondo	212	207	419	13	17	30	449	67.85
No. 6, Paco	75	71	146	6	7	13	159	59.49
Total	593	570	1,163	40	49	89	1,252	50.16

Number of births attended by physicians, living, 305; stillbirths, 26.
Number of births attended by midwives, living, 78; stillbirths, 0.
Number of births attended by families, living, 869; stillbirths, 16.

NUMBER OF DEATHS AND DEATHRATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual deathrate per 1,000
Americans	....	....	....	....
Filipinos	322	268	590	25.87
Spaniards	3	3	6	37.36
Other Europeans	2	1	3	32.44
Chinese	15	3	18	12.27
All others	1	....	1	5.57
Total	343	275	618	24.76

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	104	85
Divorced	....	....
Widowed	36	49
Single	256	180
Condition not stated	1	3
Total	397	317
Grand total	714	

Stillbirths	42
Number of deaths with medical attendance	363
Number of deaths without medical attendance	351

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	37	29	1	1	68
30 days to under 1 year	77	43	14	5	139
1 year to under 2 years	30	34	2	3	69
2 years to 4 years	26	20	2	3	51
5 years to 9 years	10	9	1	1	21
10 years to 14 years	5	3	1	....	9
15 years to 19 years	8	6	2	5	21
20 years to 29 years	27	25	8	9	69
30 years to 39 years	22	36	9	6	73
40 years to 49 years	28	21	5	5	59
50 years to 59 years	28	11	5	2	46
60 years to 69 years	14	11	....	2	27
70 years to 79 years	14	10	1	....	25
80 years to 89 years	11	11	1	....	23
90 years to 99 years	6	6	....	....	12
100 years and over	....	....	....	....	....
Age not stated	....	....	....	....	....
Total	343	275	52	42	712

NOTE.—Two (2) male Filipinos, about 50 and 40 years, respectively; permanent residence are unknown; not included in the above table.

DEATHS AND DEATHRATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts—	Deaths	Annual deathrate per 1,000
No. 1, Intramuros	136	44.31
No. 2, Meisic	102	11.93
No. 4, Sampaloc	109	26.91
No. 5, Tondo	302	45.63
No. 6, Paco	65	24.32
Total	714	28.61

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			11	11					2				24
4. Malaria			3	1									4
6. Measles			1	3									4
8. Whooping cough						1							1
9. Diphtheria and croup			2										2
10. Influenza			3										3
14. Dysentery			5	5									10
17. Leprosy			2	2									4
18. Erysipelas				2									2
20. Purulent infection and septicæmia			2	2									4
24. Tetanus			2	5									7
27. Beriberi			2	2									4
27a. Beriberi, infantile			33	14					1		1		49
28. Tuberculosis of the lungs			58	52	1				4				111
29. Acute miliary tuberculosis			1										8
30. Tuberculous meningitis			5	2					1				2
31. Abdominal tuberculosis			1	1									1
34. Tuberculosis of other organs				1									1
37. Syphilis			1										1
40. Cancer and other malignant tumors of the stomach, liver			1										5
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1 1
47. Acute articular rheumatism			1	2					1				4
48. Chronic rheumatism and gout			1										1
52 Addison's disease			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			8	4									12
(2) Cerebro-spinal meningitis (undefined)				1									1
63. Other diseases of the spinal cord			2										2
64. Cerebral hæmorrhage, apoplexy			9	3									12

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense—Ctd.													
66. Paralysis without specified cause			2										2
68. Other forms of mental alienation			2	1									3
69. Epilepsy			2										2
71. Convulsions of infants (under 5 years of age)			2										2
74. Other diseases of the nervous system			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			4	1									5
79. Organic diseases of the heart			3	4	1								8
80. Angina pectoris			2	1									3
81. Diseases of the arteries, atheroma, aneurysm, etc			1						1				2
85. Hæmorrhage; other diseases of the circulatory system			1										1
IV. Diseases of the respiratory system													
88. Diseases of the thyroid body				1									1
89. Acute bronchitis			20	22						1			43
90. Chronic bronchitis			7	6			1						14
91. Broncho-pneumonia			37	26					1				64
92. Pneumonia			4	4									8
93. Pleurisy			2	1									3
94. Pulmonary congestion, pulmonary apoplexy			1										1
96. Asthma			1	2				1					4
98. Other diseases of the respiratory system (tuberculosis excepted)				1									1
V. Diseases of the digestive system													
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)			4	7									11
105. Diarrhœa and enteritis (2 years and over)			3										3
108. Appendicitis and typhlitis			2	1									3
109. Hernias, intestinal obstructions			3										3
110. Other diseases of the intestines						1							1
113. Cirrhosis of the liver			1	1									2
114. Biliary calculi				1									1
118. Other diseases of the digestive system (cancer and tuberculosis excepted)			1										1

VI. Nonvenereal diseases of the genito-urinary system and annexa										
119. Acute nephritis	2	4					2			8
120. Bright's disease	7	11	1		1		1	1		22
122. Other diseases of the kidneys and annexa		1								1
123. Calculi of the urinary passages	1							1		2
132. Salpingitis and other diseases of the female genital organs		1								1
VII. The puerperal state										
134. Accidents of pregnancy		1								1
135. Puerperal hæmorrhage		2								2
137. Puerperal septicæmia		4								4
138. Puerperal albuminuria and convulsions		1								1
VIII. Diseases of the skin and of the celular tissue										
145. Other diseases of the skin and annexa		1								1
XI. Diseases of early infancy										
151. Congenital debility, icterus and sclerema:										
(1). Premature birth (not stillborn)	6	4								10
(2). Congenital debility	22	19								41
152. Other diseases peculiar to early infancy:										
(2). Other causes peculiar to early infancy	2									2
153. Lack of care		1								1
XII. Old age										
154. Senility	14	22								36
XIII. Affections caused by external causes										
167. Burns (conflagration excepted)	1									1
169. Accidental drowning							1			1
170. Traumatism by firearms	1									1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	1									1
183. Homicide by cutting or piercing instruments	1									1
186. Other external violence				1						1
XIV. Ill-defined diseases										
189. Cause of death not specified or ill-defined	2	1								3
Total	322	268	3	3	2	1	15	3	1	618
Grand total	590		6		3		18		1	618

NUMBER OF DEATHS BY NATIONALITY AND SEX OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2	7					1				10
6. Measles			1										1
9. Diphtheria and croup				1									1
20. Purulent infection and septicæmia			2										2
24. Tetanus			1										1
27. Beriberi				1									1
27a. Beriberi, infantile			6	2									8
28. Tuberculosis of the lungs	1		4	7					2		1		15
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			1										1
38. Gonococcus infection			1										1
40. Cancer and other malignant tumors of the stomach, liver			1										1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1). Simple meningitis			2	1					1				4
64. Cerebral hæmorrhage, apoplexy				1									1
68. Other forms of mental alienation				1									1
III. Diseases of the circulatory system													
79. Organic diseases of the heart			2	1									3
IV. Diseases of the respiratory system													
89. Acute bronchitis			2	1									3
91. Broncho-pneumonia			2	2									4
92. Pneumonia			2										2

V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			2	2			1						5
105. Diarrhœa and enteritis (2 years and over)			1										1
108. Appendicitis and typhlitis			1										1
109. Hernias, intestinal obstructions			2										2
110. Other diseases of the intestines			1										1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			2	1					1				4
120. Bright's disease			1	1						1			3
122. Other diseases of the kidneys and annexa				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				3									3
136. Other accidents of labor				2									2
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1	1									2
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema: (2). Congenital debility			1	1									2
XII. Old age													
154. Senility			1										1
XIII. Affections caused by external causes													
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)				1									1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill-defined				1									1
Total	1		44	41			1		5	1	1		94
Grand total	1		85				1		6		1		94

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days under to 1 year	Total
8. Whooping cough					1	1
9. Diphtheria and croup					1	1
10. Influenza					1	1
18. Erysipelas					2	2
20. Purulent infection and septicæmia					1	1
24. Tetanus				5		5
27a. Beriberi, infantile				7	50	57
30. Tuberculous meningitis					1	1
52. Addison's disease				1		1
61. Simple meningitis:						
(1) Simple meningitis					11	11
71. Convulsions of infants				1	1	2
74. Other diseases of the nervous system					1	1
89. Acute bronchitis					28	28
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					19	19
92. Pneumonia					1	1
93. Pleurisy					1	1
94. Pulmonary congestion, pulmonary apoplexy	1					1
104. Diarrhœa and enteritis				1	9	10
119. Acute nephritis					1	1
120. Bright's disease					1	1
123. Calculi of the urinary passages					1	1
145. Other diseases of the skin and annexa				1		1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not still-born)	5			5		10
(2) Congenital debility	14	1		16	12	43
152. Other causes peculiar to early infancy						
(2) Other causes peculiar to early infancy				1	1	2
153. Lack of care	1					1
Total	21	1		38	147	207

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,216
Number of rats caught by spring traps	3,849
Number of cage wire traps set	668
Number of rats caught by cage wire traps	0
Number and kind of baits (coconuts)	21,884
Number of poison portions placed	16,299
Number of rats found poisoned	982
Number of rats killed by clubs and other weapons	1,985
Number of rats found dead from other causes	1,156
Total number of rats otherwise caught, found dead or killed	7,972
Total number of rats sent to the laboratory for examination	7,972
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID REPORTED DURING THE MONTH OF APRIL, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	10	0	7	0	11	0	9	0	3	0	**40**
Female	4	0	6	2	4	0	7	0	5	0	**28**
Dead:											
Male	2	0	2	0	2	0	1	3	0	0	**10**
Female	0	0	3	0	4	0	3	0	2	0	**12**
Total:											
Male	12	0	9	0	13	0	10	3	3	0	50
Female	4	0	9	2	8	0	10	0	7	0	40
Grand total	16	0	18	2	21	0	20	3	10	0	90

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	2	0	1	0	2	2	3	2	1	0	13
Female	0	0	2	0	2	0	5	0	2	0	11
Total	2	0	3	0	4	2	8	2	3	0	24

Total cases reported within the month in the City of Manila		129
Resident cases	96	
Non-resident cases	33	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		34
Deaths among resident cases	24	
Deaths among non-resident cases	10	
Total cases confirmed as typhoid fever		115
Autopsy	0	
Blood culture	5	
Clinically positive	85	
Fæces	3	
Widal reaction	21	
Cases confirmed as paratyphoid fever	1	
Cases not confirmed	14	

One typhoid carrier—Living,—1.

DYSENTERIES REPORTED DURING THE MONTH OF APRIL, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No.		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	2	0	0	0	3	0	0	1	7
Female	0	0	1	0	0	0	1	0	0	0	2
Dead:											
Male	0	0	0	0	0	0	1	1	0	0	2
Female	0	0	0	1	0	0	0	3	0	0	4
Total:											
Male	1	0	2	0	0	0	4	1	0	1	9
Female	0	0	1	1	0	0	1	3	0	0	6
Grand total	1	0	3	1	0	0	5	4	0	1	15

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	1	4	0	0	5
Female	0	0	0	2	0	0	0	3	0	0	5
Total	0	0	0	2	0	0	1	7	0	0	10

Total cases reported within the month in the City of Manila		15
Resident cases	15	
Non-resident cases	0	
Total deaths reported within the month in the City of Manila		10
Deaths among resident cases	10	
Deaths among non-resident cases	0	
Reported as:		
Acute dysentery	2	
Amœbic dysentery	2	
Bacillary dysentery	0	
Chronic dysentery	1	
Dysentery	10	
Erroneously reported as dysentery	0	
Total		15

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF APRIL, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health disrcits										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		2
Non-resident cases	1	
Foreign cases	0	
Resident cases	1	
Resident cases confirmed as cholera	0	
Resident cases not confirmed (found negative)	1	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among resident cases	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	

2 Cholera carriers—Living, 1; Dead body, 1.

DIPHTHERIA REPORTED DURING THE MONTH OF APRIL, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	0	0	1	0	0	0	1	0	3
Female	1	0	0	0	0	0	0	0	0	0	1
Dead:											
Male	1	0	0	0	1	0	0	0	0	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	2	0	0	0	2	0	0	0	1	0	5
Female	1	0	0	0	0	0	0	0	0	0	1
Grand total	3	0	0	0	2	0	0	0	1	0	6

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	0	0	1	0	0	0	0	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	2

Total cases reported within the month in the City of Manila		13
Resident cases	11	
Non-resident cases (confirmed)	2	
Resident cases confirmed as diphtheria	6	
Resident cases not confirmed	5	
Total deaths reported within the month in the City of Manlia		3
Deaths among residents confirmed as diphtheria	2	
Deaths among non-resident cases	1	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	2	3	1
Varioloid	0	0	0	0
Varicella	13	17	0	0
Smallpox	0	0	0	0
Measles	17	33	1	3
Whooping cough	0	1	0	1
Influenza	13	8	3	0
Bubonic plague	0	0	0	0
Beriberi	2	2	2	2
Beriberi, infantile	35	14	35	14
Pulmonary tuberculosis	74	63	64	52
Tuberculosis of all forms	7	5	7	4
Encephalitis lethargica	1	0	0	0

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1923—Continued

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	1	0	0	0
Varioloid	0	0	0	0
Varicella	14	2	0	0
Smallpox	0	0	0	0
Measles	1	0	1	0
Whooping cough	0	0	0	0
Influenza	2	1	0	0
Bubonic plague	0	0	0	0
Beriberi	0	1	0	1
Beriberi, infantile	6	2	6	2
Pulmonary tuberculosis	17	14	8	7
Tuberculosis of all forms	1	1	1	1
Encephalitis lethargica	0	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF APRIL, 1923

Sera and vaccines	On hand April 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	....	800,000	800,000	200,000	600,000
Anti-dysenteric serum (ampoules)	47	....	47	....	47
Anti-tetanic serum (units)	400,000	348,000	748,000	748,000	....
Cholera vaccine (cc.)	4,785	18,000	22,785	20,160	2,625
Dried vaccine virus (units)	400	32,000	32,400	31,250	1,150
Fresh vaccine virus (units)	105,100	200,000	305,100	182,600	122,500
Gonococcus vaccine (ampoules)	....	50	50	50	....
Mixed cholera-typhoid vaccine (cc.)	8,050	85,920	93,970	84,770	9,200
Normal horse serum (ampoules)	....	50	50	50	....
Typhoid vaccine (cc.)	3,480	42,755	46,235	36,935	9,300

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4		5 years and over		Total	
		Positives	Negatives	Positives	Negatives	Positives	Negatives	Positives	Negatives
No. 1, Intramuros	679	106	13	43	65	....	....	149	78
No. 2, Meisic	1,054	198	14	61	83	....	....	259	97
No. 4, Sampaloc	1,069	170	5	115	226	....	....	285	231
No. 5, Tondo	805	366	17	71	81	....	....	437	98
No. 6, Paco	501	100	2	76	117	....	....	176	119
Total	4,108	940	51	366	572	....	....	1,306	623

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF APRIL, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF APRIL, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	171	55	53	22	854	274
No. 2, Meisic	....	....	....	....	1,396	115
No. 4, Sampaloc	....	....	....	....	155	22
No. 5, Tondo	594	279	374	191	305	190
No. 6, Paco	....	....	....	....	170	208
Epidemiology Section	....	....	....	....	2,577	1,574
Total	765	334	427	213	5,457	2,383

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	75	42	54	29	446	252	343	158	1,826
No. 2, Meisic	....	....	....	....	843	86	....	....	2,440
No. 4, Sampaloc	....	....	....	....	166	44	....	....	387
No. 5, Tondo	607	241	404	197	294	175	1,721	1,166	964
No. 6, Paco	....	....	....	....	211	233	....	....	822
Epidemiology Section	....	....	....	....	2,397	1,550	....	....	8,098
Total	682	283	458	226	4,357	2,340	2,064	1,324	1,4537

NOTE.—A, persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF APRIL, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	1,214	342	606	209	....	....
No. 2, Meisic	1,363	117	1,187	104	....	....
No. 4, Sampaloc	960	160	644	112	....	....
No. 5, Tondo	147	41	57	31	....	....
No. 6, Paco	324	434	193	258	....	....
Epidemiology Section	3,009	2,233	2,551	1,783	....	....
Total	7,017	3,327	5,238	2,497	....	....

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	532	285	316	180	....	....	2,373	1,311	....
No. 2, Meisic	596	112	814	117	....	....	2,188	2,222	....
No. 4, Sampaloc	587	176	508	143	....	....	1,883	1,407	....
No. 5, Tondo	64	32	39	28	....	....	284	155	....
No. 6, Paco	378	454	256	289	....	....	1,590	996	....
Epidemiology Section	2,891	2,053	2,331	1,677	....	....	10,186	8,332	....
Total	5,048	3,112	4,254	2,434	....	....	18,504	14,423	....

NOTE.—A, persons of 15 and over 15 years of age; C, below 15 years of age.
Anti-typhoid vaccines were used in the third injections.

TOTAL SMALLPOX VACCINATIONS IN THE PROVINCES FOR THE YEAR 1923 [1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	2,080	48	9	108	71
Albay	45,671	998	409	2,239	752
Antique	2,494	210	78	365	195
Bataan	2,241	81	45	355	120
Batanes	917	11	5	43	16
Batangas	44,957	435	52	2,066	408
Bohol	12,234	333	117	1,082	425
Bukidnon	2,151	1	1	6	3
Bulacan	15,945				
Cagayan	8,394				
Camarines Norte	502	44	6	23	8
Camarines Sur	7,198	172	101	331	211
Capiz	2,349				
Catanduanes	2,335	259	111	58	91
Cavite	6,647				
Cebu	26,919				
Cotabato	3,712	44	25	186	157
Culion Leper Colony	43				
Davao	6,628				
Ilocos Norte	6,180	485	189	668	567
Ilocos Sur	10,248	238	66	477	268
Iloilo	11,805	414	64	552	153
Isabela	2,262	11	29	66	113
Laguna	10,497	578	184	927	294
Lanao	4,371	2	3	14	9
La Union	5,580	122	65	192	184
Leyte	29,162				
Marinduque	3,889	99	51	179	132
Masbate	4,021	21	11	183	71
Mindoro	4,782	98	26	162	66
Misamis	3,834	216	312	196	280
Mountain Province	1,923	127	80	171	140
Nueva Ecija	4,144	972	244	227	189
Nueva Vizcaya	1,516	91	15	214	45
Occidental Negros	3,654	379	179	249	147
Oriental Negros	39,360				
Palawan	2,234				
Pampanga	7,579	205	53	251	78
Pangasinan	38,328	2,907	720	2,655	924
Rizal	11,840	267	73	390	124
Romblon	861				
Samar	6,915				
Sorsogon	3,615				
Sulu	3,295				
Surigao	2,040				
Tarlac	58,195	1,029	112	3,752	611
Tayabas	8,064	242	107	382	122
Zambales	2,569				
Zamboanga	778	55	43	27	44
Total	486,958	11,194	3,585	18.796	7,018

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[1] Compilation of reports received since January.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.

TOTAL SMALLPOX VACCINATIONS IN THE PROVINCES FOR THE YEAR, 1923 [1]—Continued

Provinces	5 years and over [3]		Total [2]	
	Positive	Negative	Positive	Negative
Abra	287	265	940	885
Albay	6,473	3,698	19,420	8,991
Antique	363	383	1,276	1,015
Bataan	315	122	1,624	606
Batanes	435	242	489	263
Batangas	3,228	4,910	15,244	16,060
Bohol	2,116	933	7,047	3,178
Bukidnon	92	154	534	733
Bulacan	....	....	9,542	3,033
Cagayan	....	....	6,221	1,313
Camarines Norte	157	263	224	277
Camarines Sur	446	355	3,528	1,932
Capiz	....	....	1,351	571
Catanduanes	119	508	549	855
Cavite	....	....	4,654	1,832
Cebu	....	....	11,623	6,984
Cotabato	501	1,141	747	1,543
Culion Leper Colony	....	....	18	25
Davao	....	....	2,467	1,907
Ilocos Norte	976	1,466	2,705	2,866
Ilocos Sur	718	487	5,288	2,679
Iloilo	654	163	4,972	1,535
Isabela	84	140	853	1,089
Laguna	884	751	5,516	2,604
Lanao	227	64	1,510	905
La Union	333	1,174	1,486	2,706
Leyte	....	....	16,976	3,851
Marinduque	634	522	1,658	1,212
Masbate	538	685	780	813
Mindoro	310	133	2,030	1,156
Misamis	154	194	1,144	1,216
Mountain Province	347	340	645	560
Nueva Ecija	90	156	2,324	1,163
Nueva Vizcaya	235	86	1,038	260
Occidental Negros	231	127	2,118	1,012
Oriental Negros	....	....	10,260	14,022
Palawan	....	....	2,221	685
Pampanga	152	156	3,607	1,346
Pangasinan	5,296	2,276	23,048	8,964
Rizal	404	312	5,201	2,242
Romblon	....	....	430	257
Samar	....	....	2,758	1,820
Sorsogon	....	....	1,794	725
Sulu	....	....	1,849	1,085
Surigao	....	....	915	715
Tarlac	6,996	6,057	24,582	15,556
Tayabas	1,034	547	5,016	2,087
Zambales	....	....	1,476	1,093
Zamboanga	27	74	379	328
Total	34,856	28,884	222,077	128,555

[1] Compilation of reports received since January. Other reports not yet received.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	1,155	555	21	....	....	....
Batangas	57	40	....	....	....	....
Cebu	161	66	151	26	....	....
Laguna	41	102	3	....	....	....
Pangasinan	2	45	1	1	....	....
Tayabas	201	168	....	....	....	....
Total	1,617	976	176	27	....	....

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	726	282	9	......	......	......	2,718	30	......
Batangas	71	40	......	......	......	......	208	......	......
Cebu	100	60	81	15	......	......	387	273	......
Laguna	19	60	......	......	......	......	222	3	......
Pangasinan	5	42	1	1	......	......	94	4	......
Tayabas	218	123	......	......	......	......	710	......	......
Total	1,139	607	91	16	......	......	4,339	310	......

[1] Compilation of reports received since January.
Other reports not yet received.
A, persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2	11	2	10	36	97
Camarines Sur	19	9	......	......	......	......
Catanduanes	2	......	2	......	......	......
Ilocos Sur	1,103	260	784	151	487	232
Laguna	85	35	63	23	43	22
Nueva Ecija	8	......	......	......	......	......
Pampanga	430	316	354	204	276	191
Pangasinan	831	719	590	556	487	507
Rizal	69	19	13	1	12	......
Tayabas	17	......	12	......	......	......
Total	2,566	1,369	1,820	945	1,341	1,049

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	3	11	3	15	23	83	27	30	239
Camarines Sur	12	11	......	......	......	......	51	......	......
Catanduanes	6	......	6	......	......	......	8	8	......
Ilocos Sur	779	310	770	173	414	191	2,452	1,878	1,324
Laguna	103	37	62	21	28	12	260	169	105
Nueva Ecija	3	......	5	......	......	......	11	5	......
Pampanga	458	340	327	268	279	228	1,544	1,153	974
Pangasinan	721	626	551	472	469	413	2,897	2,169	1,876
Rizal	73	18	27	4	11	......	179	45	23
Tayabas	18	5	12	1	......	......	40	25	......
Total	2,176	1,358	1,763	954	1,224	927	7,469	5,482	4,541

[1] Compilation of reports received since January.
Other reports not yet received.
A, persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2	13	45	274	....	....
Antique	137	119	143	124	28	19
Bataan	196	23	87	11	....	....
Batangas	26	7	19	3	....	....
Bohol	56	....	49	....	....	....
Camarines Norte	6	....	13	....	....	....
Cotabato	89	38	....	....	....	....
Ilocos Norte	371	320	305	91	....	....
Ilocos Sur	75	60	73	60	....	....
Iloilo	33	31	47	16	....	....
Laguna	96	50	8	49	....	....
Lanao	40	15	5	8	....	....
La Union	447	328	273	124	....	....
Marinduque	64	....	40	48	....	....
Masbate	218	143	242	89	....	....
Mindoro	135	21	69	15	....	....
Misamis	1	3	....	....	....	....
Nueva Ecija	45	23	62	30	44	23
Nueva Vizcaya	84	89	68	43	15	35
Pampanga	252	227	71	28	....	....
Pangasinan	31	16	1	2	....	....
Rizal	220	199	244	224	....	....
Tarlac	15	105	9	89	....	....
Tayabas	290	104	46	20	....	....
Zamboanga	44	8	....	....	....	....
Total	2,973	1,942	1,919	1,348	87	77

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	2	10	24	238	....	....	27	581	....
Antique	116	127	101	96	7	31	499	464	85
Bataan	100	38	66	13	....	....	357	177	....
Batangas	22	15	22	10	....	....	70	54	....
Bohol	37	....	32	....	....	....	93	81	....
Camarines Norte	16	....	20	....	....	....	22	33	....
Cotabato	53	32	....	....	....	....	212	....	....
Ilocos Norte	247	255	131	84	....	....	1,193	611	....
Ilocos Sur	12	27	12	27	....	....	174	172	....
Iloilo	24	11	34	7	....	....	99	104	....
Laguna	34	13	10	53	....	....	193	120	....
Lanao	3	1	3	....	....	....	59	16	....
La Union	391	261	219	110	....	....	1,427	726	....
Marinduque	60	1	34	44	....	....	125	166	....
Masbate	71	110	80	93	....	....	542	504	....
Mindoro	52	40	36	32	....	....	248	152	....
Misamis	5	5	....	....	....	....	14	....	....
Nueva Ecija	30	24	50	13	17	8	122	155	92
Nueva Vizcaya	36	74	33	57	3	33	283	201	86
Pampanga	246	199	72	36	....	....	924	207	....
Pangasinan	25	17	3	4	....	....	89	10	....
Rizal	189	120	217	154	....	....	728	839	....
Tarlac	37	70	8	60	....	....	227	166	....
Tayabas	255	87	50	11	....	....	736	127	....
Zamboanga	18	7	....	....	....	....	77	....	....
Total	2,081	1,544	1,257	1,142	27	72	8,540	5,666	263

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[1] Compilation of reports received since January.
Other reports not yet received.
A, persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF APRIL, 1923

Provinces and towns	Cases	Deaths
Bataan:		
Samal	1	
Ceb :		
Cebu	[a] 1	
Total	2	

[a] Transient, brought by steamer *Midget* from Daet, Camarines Norte.

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF APRIL, 1923

Provinces and towns	Cases	Deaths
Batangas:		
Taal	[a] 1	
Tanauan	1	1
Bulacan:		
Malolos	[a] 1	
Camarines Norte:		
Paracale	[a] 1	
Cebu:		
Cebu	1	1
Total	5	2

[a] Suspects.

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY OF MANILA, DURING THE MONTH OF APRIL, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending, March, 1923:						
Minor	28	5	20	37	15	105
Sewer	11	40	18	5	6	80
Vacating	2	14	7	2	6	31
Filling	5	2	13	5	5	30
Total	46	61	58	49	32	246
Orders issued during the month:						
Minor	6	12	21	1	1	41
Sewer	....	2	1	....	....	3
Vacating	....	1	1	....	....	2
Filling	....	....	....	....	....	....
Total	6	15	23	1	1	46
Grand total	52	76	81	50	33	292
Orders completed during the month:						
Minors	10	5	2	5	1	23
Sewer	....	2	1	....	....	3
Vacating	1	....	....	....	3	4
Filling	....	....	....	....	....	....
Total	11	7	3	5	4	30
Orders cancelled during the month:						
Minor	....	....	....	....	....	....
Sewer	....	1	....	....	....	1
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	1	....	....	....	1
Orders pending, April, 1923:						
Minor	24	12	39	33	15	123
Sewer	11	39	18	5	6	79
Vacating	1	15	8	2	3	29
Filling	5	2	13	5	5	30
Total	41	68	78	45	29	261
Strong materials, plans approved:						
New buildings including additions and alterations	31	16	30	48	12	137
Permits for minor building constructions:						
Approved	36	10	42	22	22	132
Disapproved	3	3	8	4	4	22
New buildings completed	5	6	7	11	4	33
Light and mixed material constructions:						
Approved	....	....	34	3	9	46
Disapproved	....	....	1	1	2	4
Total number of building projects passed upon	75	35	122	89	53	374
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	33	45	27	39	13	157
Plumbing projects completed	30	21	29	43	11	134
Premises connected to the sanitary sewer to March, 1923	1,651	2,827	1,042	553	411	6,484
Premises connected, during April, 1923	5	3	10	2	1	21
Total	1,656	2,830	1,052	555	412	6,505

Intramuros includes Ermita and Malate. Meisic includes Santa Cruz, Binondo, and San Nicolas. Sampaloc includes Quiapo, San Miguel, and Santa Mesa. Paco includes Pandacan and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III MAY, 1923 No. 5

The keystone of a nation's progress is sanitation and education

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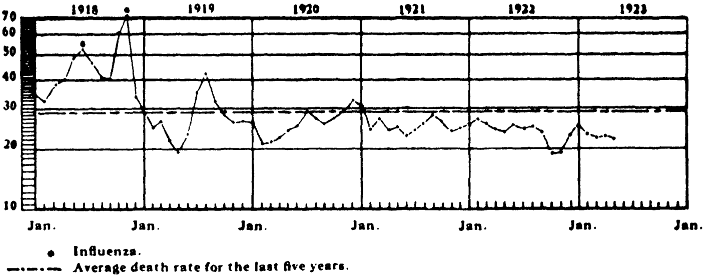

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CURANDERISMO MÉDICO Y LOS ESPECÍFICOS

Por el Dr. PEDRO BUENASEDA
(*Malolos, Bulacán*)

COMPAÑEROS: Tal vez parecerá paradójico el título de mi conferencia; por desgracia hay tal curanderismo en la clase médica de nuestro país, aunque no se niega que se cuentan muchas excepciones.

Antes y en los primeros tiempos de la Medicina Científica en Filipinas, el curanderismo estaba limitado entre los herbolarios, que aplican hierbas reputadas como medicinales a los pacientes; más tarde, cuando apareciéron drogas acompañadas de folletos descriptivos de sus propiedades físico-químicas y terapéuticas, surgieron pseudo-médicos, que sin tener debida preparación académica, ni conocimientos rudimentarios de Fisiología, Anatomía, y Patología, y valiéndose exclusivamente de los que han aprendido en los prospectos de drogas, se atreven a prodigar remedios, desde luego sin tener en consideración los posibles deleteros, ni la etiología y patogenía de la enfermedad a la cual pretenden curar.

No pocos médicos sugestionados y atraídos por los prospectos que anuncian brillantes e infalibles resultados con el uso de pretenciosas drogas; y creyendo de buena fé, que han hallado nuevos medios de salvar vida o al menos mitigar dolores, se han convertido inconscientemente en agentes de los fabricantes sacacuartos, haciéndose al propio tiempo curanderos de la clase arriba mencionada.

¿Cuántas veces he tenido que suportar impertinentes preguntas, tanto de droguistas como de vulgos, tales como: "Porqué no usa Vd. tales o cuales medicinas de Francia, España, América, o del Japón?"—"Son preparaciones elegantes, de época reciente y de mucha popularidad."—"El Dr. X o del Dr. Z las usa frecuentemente." Como si estas circunstancias fueran suficiente garantía del valor positivo contra las enfermedades.

Cuando un médico entra en cualquiera de nuestras droguerías, podrá notar al momento una infinidad de medicamentos de cuyos nombres y fórmulas no habrá tenido la más ligera idea cuando estudiaba la medicina en las aulas. Por fortuna, hasta ahora, sigue siendo una verdad lo dicho por uno de mis profesores, que muy raros son los médicos que curan y pocos los que alivian. Por tanto, el médico no habrá necesidad de romperse la cabeza con saber todo cuanto está en una droguería, aún cuando se anuncie como nuevamente descubierto, salvo muy contadas excepciones. Y si hemos de tener en cuenta que no pocos de los así llamados específicos son meramente confeccionados por unos desalmados, que se aprovechan de engañosos anuncios y de la candidez del público para enriquecerse, cualquiera podría congratularse de haber sido un tanto escéptico.

Para ilustrar esta curiosa revelación, me atreveré a citar aquí algunos de los específicos usados por conocidos médicos, siendo varios de ellos los que se precian de especialistas.

Anafimia.—Hubo un tiempo, en la antigüedad, que ciertas palabras místicas e inteligibles tenían la reputación de tener virtudes curativas, tanto que se empleaban en forma de invocación, o que se escribían en el papiro lo que se ordenaba, por último tragar al paciente. Después, con el transcurso del tiempo, el uso del lenguaje latino en las prescripciones y en la nomenclatura de los medicamentos se ha hecho general, en parte por convencionalismos y por otra, parecía que los mencionados medicamentos perdían parte o algo de su valor terapéutico si se escribían en lenguaje facilmente comprensible para los pacientes. Imbuído, tal vez, por esta última consideración, el que fué fabricante de Anafimia, P. Aiguaviva, químico-farmacéutico de Barcelona, España, ha escrito los nombres de las plantas componentes de su específico en latín, no obstante ser él un español.

Fórmula.—Una cucharadita de las de café (5 grm.) contaiene: Extracto semifluido integral Juglans regia, 3.50 gms.; Ext. amfl. thymus vulgaris, 1 gm.; Ext. smfl. eucaliptus globulus, 0.10 gms.; fucus vesiculosus, 0.15 gms.

Indicaciones.—El mejor remedio contra la tuberculosis pulmonar y el mejor tónico del pulmón. Es la más eficaz medicación contra las pleuresías, cuyo derrame hace reabsorber rápidamente. Util contra las bronquitis, bronco-pneumonias y congestiones pulmonares crónicas, adenopáticas traque-bronquiales, tuberculosis no pulmonares, etc.

Dosis: de 3 a 5 cucharaditas, de las de café al día."

El prospecto que acompaña a la botella, despues de restar méritos a la legión de tónicos existentes en el mercado de drogas, dice: "Anafimia es el producto que ningún otro ha superado hasta la fecha . . . Que es de más rápidos resultados, quita en muy pocos días todos los síntomas de la tuberculosis pulmonar; restituye sorprendentemente en perfecto estado normal todo cuanto la tuberculosis ha diezmado en el organismo; y que Anafimia es el resultado de una "labor continua de clínica y de laboratorio, llevada a cabo durante una serie de años por uno de los más reputados tisiólogos europeos," cuyo nombre no es descifrado. ¿Será para no causar envidia a Koch o para librarse del vilipendio?

Ahora véamos lo que dicen las terapéuticas acerca de los componentes de la Anafimia:

Juglans regia.—Principio activo: tanino. Propiedades terapéuticas: Ha estado encomiado como antiescrofuloso. Por otra parte, el Epítome de la Farmacopea de los Estados Unidos dice: "Un catártico desusado sin ventaja sobre la cáscara sagrada."

Thymus vulgaris.—Propiedades ter.: Excitante; la esencia es antiséptica; es aromática y rubefaciente sin ventaja sobre el alcanfor.

Eucaliptus globulus.—Propiedades ter.: Ha sido preconizado como febrífugo; empleado sobre todo en las bronquitis crónicas, la gangrena pulmonar, antiséptico pulmonar, moderador de las secreciones bronquiales; en este concepto es útil para la tuberculosis pulmonar con expectoración abundante. Arnazón dice además: "Es perjudicial en las formas secas y febriles."

Fucus vesiculosus.—Propiedades ter.: Preconizado contra la obesidad, anteriormente usado contra el bocio y las glándulas tuberculosas; puede ser de algún valor por su contenido en yodo, pero sin ventaja sobre las otras preparaciones de iodo.

Lobelia inflata.—Propiedades ter.: Expectorante, antiasmático antidisneico; empleado sobre todo en el asma y la coqueluche nauseante y emético. El Epítome de la Farmacopea de los Estados Unidos, dice: "Ha caído en desuso por sus efectos peligrosos. "Arnazón también dice: "Las propiedades sedantes de la disnea, tan pronto se alaban como se olvidan." Ortener sobre el asma bronquial: "Los preparados de la hierba lobelia inflata se usaban más antes que ahora."

He ahí las "bien estudiadas y seleccionadas plantas: por Aiguaviva o por su anónimo tisiólogo, componentes de Anafimia, que además de tener efectos dudosos, algunas de ellas son desusadas y de efectos contradictorios.

Debe de tenerse en cuenta que solamente los aceites volátiles de ciertos componentes o de Anafimia son los que tienen reputación de antisépticos, pero no los extractos, sean estos fluídos o semifluídos. De todos éstos, Sollman dice además: "Ellos (los aceites volátiles) no han probado ser curativos en la tuberculosis experimental en los perros."

Por otra parte, ninguna de las mencionadas plantas tiene acción electiva sobre el pulmón ni mucho menos sobre la tuberculosis; y en general, Osler opina: "No hay agentes medicamentosos que tienen especial o peculiar acción sobre los procesos tuberculosos;" y todos los mejores autores coinciden con esta opinión. No hay razón pués para anunciar que el mejor tratamiento o "medicación fundamental, basal, continua de la tuberculosis pulmonar es Anafimia," así como de las otras enfermedades del pulmón citadas en el prospecto.

Excusado es decir que he usado este específico en tres ocasiones, pero en ninguna he notado mejoría real ni aparente.

Que ha habido casos fortuítos u ocasionales de mejoría con Anafimia, tal vez fuera verdad; pero mientras no se demuestre que tales casos fueron verdaderamente de tuberculosis según todos los medios actuales de diagnósticos y que habían sido controlados con otros casos tratados de diferente manera, toda duda sería justificada.

A propósito de las mejorías aparentes de tuberculosis pulmonar, citaré una anécdota del libro "Nostrums and Quackery:"

> Albert Mathew, un médico francés, ha hecho comprender a sus pacientes tuberculosos que se ha descubierto un remedio maravillosa contra la tuberculosis en forma de un suero al cual él ha dado el nombre de Antiphymose. A estos pacientes, él había dado inyecciones de este supuesto suero, que era, en realidad, una pequeña cantidad de solución de sal común, previa cuidadosa observación de sus respectivos estados. Un cambio notable se había visto; el apetito mejoró, la temperatura disminuyó, la tos, expectoración, y sudores nocturnos se disiparon; y los pacientes comenzaron a ganar en peso. Con el caso de las inyecciones, los síntomas anteriores volvieron.

En resumen, que las preconizaciones de P. Aiguaviva acerca de su Anifimia son exageradas y aun engañosas:

1.°—Porque no es el mejor remedio contra la tuberculosis pulmonar.

2.°—Porque no es tónico del pulmón ni hay tal droga tónico del pulmón.

3.º—Porque Aiguaviva no revela el nombre de su tisiólogo europeo.

4.º—Porque hay pruebas evidentes de que Anafimia haya curado experimental como clínicamente la tuberculosis pulmonar.

ALETRIS CORDIAL

(Preparado por Rio Chemical Co., New York)

Fórmula: En cada onza de la droga contiene: Aletris, 10 granos; Helonias, 30 granos; Scropularia, 30 granos.

La botella va acompañada de un prospecto que dice entre otras cosas: "Tónico para señora . . . La restauración del sistema uterino significa que mejora la condición física en general . . . Para las jóvenes, el Aletris Cordial no solamente es un medicamento para mujeres adultas, sino que también se recomienda a las madres que lo administren a sus hijas entre la edad de doce a dieciocho años, como un tónico para normalizar las funciones del sistema durante la época en que empieza la menstruación."

He revisado mis terapéuticas editadas en castellano, y en ninguna de ellas he leido que sa haga mención, siquiera, de las helonías, aletria, scropularia. Solamente en el Epítome de la Farmacopea de los Estados Unidos he hallado los siguientes:

> *Aletris.*—Acción y usos: Un simple amargo, sin ventaja sobre la genciana. También se usa en los específicos llamados "remedios femeninos" sin buena evidencia de valor.
>
> *Helonías.*—Acción y usos: Ingrediente de "remedios femeninos" sin valor establcido.
>
> *Scropularia.*—Esta droga ni es mencionada en la Farmacopea de los Estados Unidos. El informe del Concejo de Farmacia y Química de la American Medical Association dice sobre esta planta: "Contiene un principio activo cuya acción es semejante a la digital, pero de actividad tan insignificante que no hay nada que se ganará con saberlo."

Si los componentes del específico llamado "Aletris Cordial" son de ningún valor; como es posible que de la mezcla resultase un "Tónico para señora y las jóvenes, y que las niñas pálidas y las mujeres débiles mejorarán considerablemente de salud?" El hecho de que se recomienda entre la edad de 12 a 18 años y en varios períodos de cada año es indicador de hasta donde llega la codicia de dinero de la Rio Chemical Co.

El *Journal of the American Medical Association,* hablando sobre el Aletris Cordial, dice: "Es un específico (nostrum) que contiene drogas terapéuticamente inútiles en alcohol en la proporción de 28 por ciento. Anuncios pretenciosos tales como éstos, cuando se hacen para una mezcla que no contiene componente terapéuticamente activos, son absolutamente descabellados."

GOMENOL

(Manufacturado en Francia)

Se dice que se extrae de una especie de Cayapute, de la Melaleuca viridiflora de la Nueva Caledonia. Ésta es muy semejante a la planta Cayupete de donde se extrae el Aceite de Cayepute Officinal. Ambas plantas, el Cayepute y la Melaleuca viridiflora, pertenecen a la especie de las Malaleucas, siendo el principio activo de las mismas lo que se llama Cayeputol. Los Aceítes extraídos de las dos plantas son idénticos en composición química y propiedades físicas y es de presumir que también en propiedades terapéuticas. Si ésto es así, ¿por qué el uno se llama Aceíte de Cayepute y el otro Gomenol? La diferencia de costo les podrá explicar, pues este último se vende dos o tres veces más caro que el primero.

El prospecto de esta droga Gomenol dice así: "Un verdadero específico contra las supuraciones y catarros . . . inmuniza los tejidos, excita la vitalidad de éstos, y favorece la formación de nuevas células.

"La menor traza de gomenol impide el desarrollo, in vitro, de los estreptococos, bacilus de la tuberculosis y los gonococos."

¿Tienen Vds. confirmación clínica y patológica de estos disparates? Cuanto debemos de congratularnos si fueran verdades; pues de esa manera, nosotros y el mundo científico, no tendríamos que sacrificarnos resolviendo los problemas intrincados de la Inmunología y Serología.

CITRO-TONIC CAPISTRANO

(Hecho por JOSÉ J. CAPISTRANO, Ph., Manila)

Fórmula.—Alcohol 2 per cent: Each 100 cc. contains: Fer 0.8 gms.; gas ammonia dis. 0.4 gms.; citric acid 1.4 gms.; excipient and flavoring G. S.

Indicaciones—(*Traducción del prospecto en tagalo*).—Fortalece el estómago, sana el cuerpo, estimula el apetito, verdadero enemigo del insomnio, remedio contra la indigestión del alimento, así mismo contra lo que se llama dispepsia, una enfermedad ordinaria del estómago. Anemia, particularmente si proviene del embarazo o "pagbubuntis" (traducido por Capistrano como puerperio), enfermedad procedente de la matríz y flujos debido a que éstos son acompañados de hemorragias. Remedio eficaz contra cualquiera que padece de enfermedad de fiebre acompañada de escalofrío. Para los convalescientes de Tifus, Malaria, Trancazo; y un remedio maravilloso que da vigor a los tísicos si la enfermedad está en el primer grado. Contra el beriberi y neurastenia, enfermedades que provienen de la debilidad de las pequeñas venas o nervios. Buen medicamento para la mujer que no menstrua regularmente, como lo que se denomina dismenorrea, amenorrea, menorragia. Bueno para expulsar los entuertos, y para las que amamantan. Preventivo del beriberi infantil.

Advertencia.—Este medicamento puede usarse constantemente desde una botella hasta tres, seís, doce o treinta botellas (1) particularmente si las enfermedades son por falta de sangre o cloro-anemia, o tuberculosis en su primer grado.

Empezando por ojear la fórmula, puede uno hallar al momento un barbarismo y lunares que desdicen del saber del que lo ha escrito.

Fer.—Por las otras palabras de la fórmula, se infiere que *Fer* es palabra; pero la revisión de todos mis diccionarios de las lenguas inglesa, castellana, latina, y alemana, y del diccionario médico no me ha demostrado que haya tal palabra *Fer;* así mismo no existe en Terapéutica, Química, y Farmacología.

¿Qué sustancia pues representa el *Fer?* Si algo representa y no bautizado con su apropiado nombre, Capistrano engaña y merece ser condenado por la Ley. Si se quiere decir hierro, es indicio de ignorancia; pues no lo es ni en inglés ni en latín.

Dado el supuesto de que es hierro libre, como el parecer así se quiere dar de entender, tendrá necesariamente que precipitarse al fondo de la botella, lo cual no se observa en el preparado de marras; y si lo está en estado de coloidal, tendría que oxidarse inmediatamente o convertirse en una sal por la presencia del agua y el ácido cítrico, por la propiedad misma del metal, particularmente estando en una división extremada; por consiguiente, no puede considerarse libre.

Gas ammonia dis.—Probablemente, se quiere decir agua amoniacal, en castellano. Todas las terapéuticas convienen que es un exitante difusible, antiácido, de ahí su uso en los envenamientos por ácido, e irritante local; pero nadie le concede el valor de un estomáquico, eupéptico o digestivo; y aun cuando por su acción irritante provoque hiper-secreción de la mucosa gástrica, la presencia del ácido cítrico habrá neutralizado tal acción.

Citric acid.—El Epítome de la Farmacopea de los Estados Unidos dice que es "un sustituto del jugo de limón y también del ácido clorhídrico diluído en el tratamiento de la hipo-acidez gástrica." Las terapéuticas dicen, además, que es antídoto de los envenamientos por los alcalís. El valor terapéutico, por consiguiente, del ácido cítrico en el *Citro Tonic Capistrano* en las enfermedades acompañadas de hipo-acidez del jugo gástrico ó hipoclorhidia, es nulo o casi nulo por la presencia del gas amoniaco que es un alcalí.

Nadie pues de los componentes del Citro-Tonic es de positivo valor, y las indicaciones que menciona Capistrano no merecen comentarios, porque ellas mismas suenan a engaño y necedad. Distinguir la dispepsia de la indigestión, traducir el tagalo al castellano el "pagbubuntis" como puerperio, decir que el beriberi y la neurastenia tienen por etiología la debilidad de los pequeños nervios y venas, creer que los flujos uterinos son siempre hemorrágicos y considerar como cloro-anemia la deficiencia o falta de sangre, es el colmo de los disparates.

Queda todavía una infinidad de medicamentos a exponer, de la clase de específicos arriba mencionada, en uso por renombrados médicos, tales como: Pam-ala, Tuberculina Yodada, Glycothimoline, Celerina, etc. Casi todos con testimonios laudatorios de supuestos eminentes médicos que en verdad son testimonios y médicos imaginarios, o al menos comercializados o pagados. Pero creo que ya debo de terminar mi conferencia, para no abusar de vuestra benévola atención; pero permítame, antes, manifestar que hombres o entidades que quieran enriquecerse a expensas de la humanidad doliente, valiéndose del engaño y explotando su candidez, no solamente son indignos del deber jurado al ejercer la profesión y una vergüenza a la clase a que pertenecen, sino también merecen doblemente el presidio; porque son estafadores como otro cualquiera, y un gravamen adicional para los que ya están sufriendo; y de ellos no se excluyen los saca-appendix y los saca-tonsils.

Anualmente pagamos al extranjero de tres a cuatro millones por medicamentos; y si se tiene en consideración que escasamente el 10 por ciento de ellos son de verdadera utilidad, podemos deducir que perdemos de Filipinas varios millones de pesos por nada.

Ustedes mis compañeros que están mejor impuestos de nuestra profesión, harían no solamente un servicio a nuestros paisanos pacientes, sino a la patria en general en forma de economía, por parte de la importación de drogas, si desenmarcararán a los falsos y embaucadores drogueros, y apreciaran en su justo valor los medicamentos que caígan en sus manos.

PHILIPPINE ISLANDS

The Philippine Health Service has undertaken recent advances in administration, vital statistics, communicable diseases, sanitary engineering, laboratories, child-hygiene, public-health education, public-health nursing, venereal diseases, foods and drugs, and miscellaneous activities including the treatment of leprosy and the establishment of hospitals and clinics.

Administration.—All the regular provinces, under the Division of Provincial Sanitation, have established a uniform health organization and administration, viz., that each province, which, from the point of view of public-health administration, is under the supervision of a district health officer, has been and is subdivided into sanitary divisions, each having in charge a medical officer of the Service.

Vital statistics.—The report of this Division, quarterly since 1906, has been, beginning July, 1921, issued monthly and incorporated in the Monthly Bulletin of the Service.

Since the beginning of 1921, the certificate of death has been changed to the standard one used in the United States.

The morbidity and mortality rates for smallpox, cholera, typhoid-fever, dysentery, and influenza show a reduction in these diseases during 1921. This diminution has been perhaps partly due to the active general vaccination campaign undertaken by the Service.

Sanitary engineering.—New advances have been made in the establishment of more water-systems for pure water for drinking and house use, and the proper maintenance of those systems already existing. An active campaign has been carried on for the establishment, in various towns, of sanitary conveniences for the proper disposal of excreta. For this purpose, the so-called Antipolo system has been extended throughout the Archipelago. A system for the adequate disposal of waste and garbage in various provinces and municipalities has been installed.

Laboratories.—Besides 21 laboratories in existence, there have been established in 1921 several others in the provinces, including those of Sulu and Mindanao. These laboratories have the same function as any public-health laboratory.

The clinical laboratory, established last year in San Lazaro Hospital for infectious diseases, was developed during 1921 with a view to undertake experimental work along such lines as pertain to the modern treatment of leprosy, the bacteriological investigation of problems connected with infectious diseases, the extensive examinations of various specimens, the detection of carriers, etc., besides the routine work for the confirmation of clinical diagnoses. In this laboratory, there have been trained technicians who are to be sent to the public-health laboratories in various provinces.

Child hygiene.—(*See* PUBLIC HEALTH NURSING.)

Public-health education.—Active educational campaigns thru various agencies, in the form of public conference, lectures, cinematographic demonstrations, pamphlets, news items, ect., have been and are being carried out through the efforts of a special unit Service; viz., the so-called Healthmobile.

Beginning July, 1921, instead of the quarterly reports of the Service, the Health Bulletin was issued monthly, containing original articles on sanitary matters, editorials, news, appointments, promotions, vital statistics, review of literature, etc., for the instruction and information of the public.

Public-health nursing.—In Manila as well as in the provinces, the work of the district nurses has been increased to meet the existing demands and needs of the people. The nurses have been, in a large measure, concerned primarily with activities connected with maternity care (pre- and post-natal), infant hygiene, prevention and cure of beriberi both infantile and adult, the registration of births and deaths, etc.

On July 1, 1921, there were established in the City of Manila and elsewhere health centers for the education of actual and expectant mothers in matters of personal hygiene and sanitation, for the physical examination of children less than two years of age, and for the medical treatment of patients not under the care of private physicians.

Venereal diseases.—One more venereal disease clinic was established in the City of Manila in 1921, so that now there are three in all. These three clinics have accomplished much as regards the education of the public in sex-hygiene and the prevention and cure of diseases resulting from immoral habits.

Foods and drugs.—Special attention was given, during 1921, to the manufacture and sale of "milk sherbet," and the importation of fruits and vegetables from China. (NOTE.—"Milk sherbet" is in the form of ice-cream made entirely from evaporated milk and has a minimum standard of 6.50 per cent milk fat. If fruits or nuts are added, the standard is reduced to 5.50 per cent.)

Miscellaneous.—The investigation regarding the chemo-therapeutics of chaulmoogra oil derivatives as well as other preparations, believed to be of value in the treatment of leprosy, was entrusted to the hands of a special committee. The experiment was and is still being undertaken at two places; viz., (1) in San Lazaro Hospital, and (2) in the Culion Leper Colony. The work is not yet completed; however, there seems to be the prevailing impression that the results, so far obtained, have been gratifying.

To meet the growing needs of the people, several hospitals have been established, such as the emergency hospitals in the capitals of the Provinces of Romblon and Iloilo.

The extensive anti-cholera vaccination campaign has been continued. Similarly, intensive measures have been taken to safeguard the public from smallpox, typhoid-fever, dysentery, malaria, and infantile beriberi.

The establishment of clinics for the treatment of yaws, tropical ulcers, and other skin diseases, in various places where a majority of the cases occurred, was in 1921 one of the important activities of the Service.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of May, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health Districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

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[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

Date.	Pressure [1] mean	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a.m. mean	2 p.m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	756.86	26.3	34.7	3	21.5	1	29.2	29.3
11-20	58.05	27.4	34.4	17	23.0	20	29.4	29.6
21-31	58.03	27.7	34.0	23,30	22.9	30	30.4	30.6

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	83.1	93.6	7	70.6	1
11-20	81.2	86.2	12	76.0	20
21-31	76.1	79.0	29	72.8	26

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer[2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	S. W	2,275.0	371.0	10	29.2	7.5	2
11-20	S. W	1,606.0	307.0	14	37.5	4.8	14,20
21-31	E.	1,863.0	223.0	27	49.0	6.2	27

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	42 55	10 05	2	351.4	8
11-20	72 10	10 05	14	32.6	4
21-31	75 40	9 40	22	4.1	2

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	5	7	12	45.11
Filipinos	622	607	1,229	52.16
Spaniards	3	3	6	36.16
Other Europeans	5	....	5	52.32
Chinese	26	26	52	34.31
All others	5	4	9	48.51
Total	666	647	1,313	50.91

BIRTHS, BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	113	81	194	4	7	11	205	64.64
No. 2, Meisic	78	94	172	11	6	17	189	21.39
No. 4, Sampaloc	101	129	230	5	7	12	242	57.81
No. 5, Tondo	257	215	472	19	15	34	506	73.99
No. 6, Paco	71	90	161	7	3	10	171	61.92
Total	620	609	1,229	46	38	84	1,313	50.91

Number of births attended by physicians, living, 316; stillbirths, 30.
Number of births attended by midwife, living, 98; stillbirths, 2.
Number of births attended by family, living, 899; stillbirths, 24.

NUMBER OF DEATHS AND DEATH RATE PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1, 000
Americans	2		2	7.52
Filipinos	294	268	562	23.85
Spaniards	4	2	6	36.16
Other Europeans	....	....	....	....
Chinese	19	1	20	13.20
All others	4	....	4	21.56
Total and average	323	271	594	23.03

TOTAL DEATHS BY SOCIAL CONDITIONS, INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	101	86
Divorced	....	....
Widowed	29	44
Single	233	177
Condition not stated	6	....
Total	369	307
Grand total	676	

Stillbirths	56
Number of deaths with medical attendance	323
Number of deaths without medical attendance	353

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	44	28	....	....	72
30 days to under 1 year	66	55	6	7	134
1 year to under 2 years	26	21	4	3	54
2 years to 4 years	26	24	1	....	51
5 years to 9 years	4	8	1	2	15
10 years to 14 years	5	4	1	2	12
15 years to 19 years	11	12	2	....	25
20 years to 29 years	30	35	10	8	83
30 years to 39 years	24	17	6	6	53
40 years to 49 years	25	11	5	3	44
50 years to 59 years	22	14	2	3	41
60 years to 69 years	18	13	3	2	36
70 years to 79 years	14	10	2	....	26
80 years to 89 years	4	14	1	....	19
90 years to 99 years	2	4	....	....	6
100 years and over	1	1	....	....	2
Age not stated	1	....	1	....	2
Total	323	271	45	36	675

NOTE.—One (1) male Filipino of about 70 years, permanent residence is unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	109	34.37
No. 2, Meisic	78	8.83
No. 4, Sampaloc	103	24.61
No. 5, Tondo	328	47.96
No. 6, Paco	58	21.00
Total	676	26.21

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			8	6					1		1		16
4. Malaria			1	2									3
9. Diphtheria and croup			2										2
10. Influenza			2	3									5
14. Dysentery			3	2							1		6
18. Erysipelas			2	3							1		6
20. Purulent infection and septicæmia				4									4
24. Tetanus			3	1									4
27. Beriberi			1	6					1				8
27a. Beriberi, infantile	1		37	29					1				68
28. Tuberculosis of the lungs			57	63					4				124
30. Tuberculous meningitis			2	1					3	1			7
31. Abdominal tuberculosis			1	1									2
34. Tuberculosis of other organs				2									2
35. Disseminated tuberculosis				2	1				1				4
37. Syphilis				1									1
39. Cancer and other malignant tumors of the buccal cavity					1								1
40. Cancer and other malignant tumors of the stomach, liver					1				1				2
42. Cancer and other malignant tumors of the female genital organs				1									1
43. Cancer and other malignant tumors of the breast				1									1
47. Acute articular rheumatism				1									1
53. Leuchæmia									1				1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			8	3									11
(2) Cerebro-spinal meningitis (undefined)			1	1									2
63. Other diseases of the spinal cord						1							1
64. Cerebral hæmorrhage, apoplexy			6	6									12
65. Softening of the brain			1										1
66. Paralysis without specified cause				1									1
68. Other forms of mental alienation			4										4
69. Epilepsy			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart			9	2					1				12
85. Hæmorrhage; other diseases of the circulatory system			1										1
IV. Diseases of the respiratory system													
87. Diseases of the larynx			1										1
89. Acute bronchitis			25	21									46
90. Chronic bronchitis			7	5									12
91. Broncho-pneumonia			19	16					1				36
92. Pneumonia			16	9									25
93. Pleurisy			2										2
96. Asthma				2									2
V. Diseases of the digestive system													
100. Diseases of the pharynx			1										1
103. Other diseases of the stomach (cancer excepted)			2	1									3
104. Diarrhœa and enteritis (under 2 years)			3	3									6
105. Diarrhœa and enteritis (2 years and over)			5	4									9
107. Intestinal parasites			1										1
108. Appendicitis and typhlitis			1										1
109. Hernias, intestinal obstructions				1									1
110. Other diseases of the intestines				1									1
111. Acute yellow atrophy of the liver									1				1
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			5	2									7
120. Bright's disease			7	12									19
VII. The puerperal state													
134. Accidents of pregnancy				2									2
135. Puerperal hæmorrhage				4		1							5
137. Puerperal septicæmia				2									2

VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene									1				1
144. Acute abscess			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			5	2									7
(2) Congenital debility			20	19					1		1		41
152. Other diseases peculiar to early infancy:													
(1) Injures at birth (not stillborn)			2										2
(2) Other causes peculiar to early infancy			1										1
153. Lack of care				1									1
XII. Old age													
154. Senility			11	14									25
XIII. Affections caused by external causes													
160. Suicide by cutting or piercing instruments			1										1
167. Burns (conflagration excepted)			1	1									2
169. Accidental drowning			2										2
172. Traumatism by fall			1		1								2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2										2
185. Fractures (cause not specified)			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	1			2					1				4
Total	2	......	294	268	4	2	......	......	19	1	4	......	594
Grand total	2		562		6		......		20		4		594

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			1	3					1				5
4. Malaria			1										1
6. Measles				1									1
9. Diphtheria and croup				1									1
10. Influenza				1									1
14. Dysentery			1	1									2
17. Leprosy			1										1
20. Purulent infection and septicæmia			1										1
24. Tetanus			1										1
27. Beriberi				1									1
27a. Beriberi-infantile			2	4									6
28. Tuberculosis of the lungs			9	7						1			17
30. Tuberculous meningitis			1										1
31. Abdominal tuberculosis			1										1
32. Pott's disease			1										1
37. Syphilis			1	1									2
40. Cancer and other malignant tumors of the stomach, liver			1	1									2
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1
47. Acute articular rheumatism				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1	1									2
64. Cerebral hæmorrhage, apoplexy			1										1
69. Epilepsy					1								1
III. Diseases of the circulatory system													
79. Organic diseases of the heart				1									1
82. Embolism and thrombosis				1									1

IV. Diseases of the respiratory system													
91. Broncho-pneumonia			2	2									4
92. Pneumonia			3	1									4
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			2	1									3
106. Ankylostomiasis			1										1
109. Hernias, intestinal obstructions			1	1									2
113. Cirrhosis of the liver			1										1
117. Simple peritonitis (nonpuerperal)			1	1									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1										1
120. Bright's disease			1	2									3
132. Salpingitis and other diseases of the female genital organs				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1										1
XIII. Affections caused by external causes													
172. Traumatism by fall			2										2
175. Traumatism by other crushing (vehicles, railways, landslides, etc)			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1	1									2
Total			43	35	1				1	1			81
Grand total			78		1				2				81

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Diphtheria					1	1
18. Erysipelas					3	3
20. Purulent infection and septicæmia					2	2
24. Tetanus				4		4
27a. Beriberi, infantile				11	63	74
28. Tubercclosis of the lungs					1	1
30. Tuberculous meningitis					2	2
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					6	6
89. Acute bronchitis					30	30
90. Chronic bronchitis					4	4
91. Broncho-pneumonia				1	11	12
92. Pneumonia					3	3
103. Other diseases of the stomach (cancer excepted)					1	1
104. Diarrhœa and enteritis				1	5	6
119. Acute nephritis					2	2
142. Gangrene					1	1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	3	1	1	2		7
(2) Congenital debility	21	4		11	5	41
152. Other causes peculiar to early infancy:						
(1) Injuries at birth (not stillborn)	2					2
(2) Other causes peculiar to early infancy	1					1
153. Lock of care					1	1
189. Cause of death not specified or ill-defined					1	1
Total	27	5	1	30	143	206

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	22,382
Number of rats caught by spring traps	3,907
Number of cage wire traps set	740
Number of rats caught by cage wire traps	6
Number and kind of baits (coconuts)	23,125
Number of poison portions placed	31,858
Number of rats found poisoned	348
Number of rats killed by clubs and other weapons	2,986
Number of rats found dead from other causes	1,358
Total number of rats otherwise caught, found dead or killed	8,605
Total number of rats sent to the Laboratory for examination	8,605
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MAY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	5	0	7	1	9	2	10	0	7	0	41
Female	3	0	8	0	5	0	13	0	3	1	33
Dead:											
Male	0	0	0	0	1	0	1	0	0	0	2
Female	0	0	0	0	0	0	0	1	0	1	2
Total:											
Male	5	0	7	1	10	2	11	0	7	0	43
Female	3	0	8	0	5	0	13	1	3	2	35
Grand total	8	0	15	1	15	2	24	1	10	2	78

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	2	0	2	2	3	0	0	0	10
Female	1	0	1	0	0	0	2	0	1	1	6
Total	2	0	3	0	2	2	5	0	1	1	16

Total cases reported within the month in the City of Manila		119
Resident cases	93	
Non-resident cases	26	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		21
Deaths among resident cases	16	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		101
Autopsy	0	
Blood culture	3	
Clinically positive	80	
Feces	1	
Widal reaction	17	
Cases confirmed as paratyphoid fever		0
Cases not confirmed		18

Typhoid carrier—Living, 1.

DYSENTERIES REPORTED DURING THE MONTH OF MAY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	2	0	1	0	3
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	1	0	4	0	0	5
Female	0	0	0	0	0	0	0	2	0	0	2
Total:											
Male	0	0	0	0	0	1	2	4	1	0	8
Female	0	0	0	0	0	0	0	2	0	0	2
Grand total	0	0	0	0	0	1	2	6	1	0	10

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	1	0	3	0	0	4
Female	0	0	0	0	0	0	0	2	0	0	2
Total	0	0	0	0	0	1	0	5	0	0	6

Total cases reported within the month in the City of Manila		12
Resident cases	10	
Non-resident cases	2	
Total deaths reported within the month in the City of Manila		8
Deaths among resident cases	6	
Deaths among non-resident cases	2	
Reported as:		
Acute dysentery	4	
Amœbic dysentery	1	
Bacillary dysentery	3	
Chronic dysentery	0	
Dysentery	4	
Erroneously reported as dysentery		0
Total		12

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF MAY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		0
Non-resident cases	0	
Foreign cases	0	
Resident cases	0	
Resident cases not confirmed as cholera (found negative)	0	
Resident cases confirmed	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	

Cholera carriers—2, Living—2.

DIPHTHERIA CASES REPORTED DURING THE MONTH OF MAY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	2	0	0	0	0	0	2	0	0	0	4
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	2	0	0	0	0	0	2	0	0	0	4
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	2	0	0	0	0	0	2	0	0	0	4

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	2	0	0	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	0	2

Total cases reported within the month in the City of Manila		7
Resident cases	4	
Non-resident cases	3	
Resident cases confirmed as diphtheria	3	
Resident cases not confirmed as diphtheria	1	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases confirmed as diphtheria	2	
Deaths among non-resident cases	1	

Diphtheria carrier—1; Living—1.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	8	3	1	2
Varioloid	0	0	0	0
Varicella	9	3	0	0
Smallpox	0	0	0	0
Measles	20	12	0	0
Whooping cough	0	0	0	0
Influenza	16	10	2	3
Bubonic plague	0	0	0	0
Beriberi	2	6	2	6
Beriberi, infantile	39	29	39	29
Pulmonary tuberculosis	88	83	61	63
Tuberculosis of all forms	8	7	8	7
Encephalitis lethargica	1	0	0	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	5	2	1	0
Varioloid	0	0	0	0
Varicella	2	0	0	0
Smallpox	0	0	0	0
Measles	2	3	0	1
Whooping cough	0	0	0	0
Influenza	2	1	0	1
Bubonic plague	0	0	0	0
Beriberi	0	1	0	1
Beriberi, infantile	2	4	2	4
Pulmonary tuberculosis	18	12	9	8
Tuberculosis of all forms	3	0	3	0
Encephalitis lethargica	0	1	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF MAY, 1923

Sera and vaccines	On hand May 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	600,000	....	600,000	149,000	451,000
Anti-dysenteric serum (ampoules)	47	20	67	47	20
Anti-tetanic serum (units)	....	234,000	234,000	234,000	....
Cholera vaccine (c.c.)	2,625	20,350	22,975	18,000	4,975
Dried vaccine virus (units)	1,150	30,350	31,500	27,850	3,650
Fresh vaccine virus (units)	122,500	200,000	322,500	191,700	130,800
Gonococcus vaccine (ampoules)	....	....	....	....	....
Mixed cholera-typhoid vaccine (c.c.)	9,200	71,350	80,550	71,680	8,870
Normal horse serum (ampoules)	....	....	....	....	....
Typhoid vaccine (c.c.)	9,300	28,910	38,210	29,520	8,690

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4 years		5 years and over		Total	
		Positives	Negatives	Positives	Negatives	Positives	Negatives	Positives	Negatives
No. 1, Intramuros	925	121	10	22	50			143	60
No. 2, Meisic	1,719	195	17	66	83			261	100
No. 4, Sampaloc	667	253	4	71	156			324	160
No. 5, Tondo	804	407	15	143	119			550	134
No. 6, Paco	1,362	118	9	45	88	91	296	254	393
Total	5477	1,094	55	347	496	91	296	1,532	847

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1923

See consolidated table of mixed vaccinations in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros					1,281	126
No. 2, Meisic					919	214
No. 4, Sampaloc					243	95
No. 5, Tondo	193	137	126	100	216	194
No. 6, Paco					91	161
Epidemiology Section					1,777	1,320
Total	193	137	126	100	4,527	2,110

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros					240	133			1,780
No. 2, Meisic					716	251			2,100
No. 4, Sampaloc					245	97			680
No. 5, Tondo	337	168	210	88	334	158	835	524	902
No. 6, Paco					77	204			533
Epidemiology Section					1,680	1,293			6,070
Total	337	168	210	88	3,292	2,136	835	524	12,065

NOTE: A—Persons of 15 and over 15 years of age; C—Below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	2,092	181	1,762	216	....	....
No. 2, Meisic	1,070	620	767	430	....	....
No. 4, Sampaloc	934	459	503	189	....	....
No. 5, Tondo	57	57	38	51	....	....
No. 6, Paco	208	466	128	266	....	....
Epidemiology Section	2,997	1,731	2,021	1,491	....	....
Total	7,358	3,514	5,219	2,643	....	....

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	520	167	365	170	....	....	2,960	2,513	....
No. 2, Meisic	822	511	799	355	....	....	3,023	2,351	....
No. 4, Sampaloc	727	499	569	192	....	....	2,619	1,453	....
No. 5, Tondo	79	48	41	29	....	....	241	159	....
No. 6, Paco	224	455	146	298	....	....	1,353	838	....
Epidemiology Section	2,100	1,652	1,813	1,386	....	....	8,480	6,711	....
Total	4,472	3,332	3,733	2,430	....	....	18,676	14,025	....

NOTE: A—Persons of 15 and over 15 years of age; C—Below 15 years of age. Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923 [1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	2,080	84	29	179	134
Albay	58,720	2,026	783	4,173	1,541
Antique	4,757	501	168	679	278
Bataan	2,960	147	61	703	237
Batanes	917	11	5	43	16
Batangas	48,458	677	98	2,485	516
Bohol	14,325	333	117	1,082	425
Bukidnon	3,012	1	1	6	3
Bulacan	19,194				
Cagayan	8,394	440	42	814	135
Camarines Norte	1,113	135	40	117	71
Camarines Sur	7,198	172	101	331	211
Capiz	5,447	188	82	202	48
Catanduanes	5,090	329	152	83	136
Cavite	7,919				
Cebu	36,831	1,147	671	1,013	678
Cotabato	4,607	44	25	193	182
Culion Leper Colony	43				
Davao	6,693				
Ilocos Norte	7,894	626	245	882	738
Ilocos Sur	18,016	652	195	1,429	687
Iloilo	15,067	670	100	991	345
Isabela	3,720	126	126	347	390
Laguna	13,407	578	184	927	294
Lanao	4,371	2	3	14	9
La Union	5,580	122	65	192	184
Leyte	40,822	268	107	927	147
Marinduque	3,889	99	51	179	132
Masbate	4,021	21	11	183	71
Mindoro	4,782	227	77	567	272
Misamis	5,338	216	312	196	280
Mountain	4,200	127	80	171	140
Nueva Ecija	5,306	1,305	360	346	255
Nueva Vizcaya	1,655	139	22	289	51
Occidental Negros	5,707	379	179	249	147
Oriental Negros	39,360	185	148	490	495
Palawan	2,254				
Pampanga	9,443	474	92	721	184
Pangasinan	37,906	2,907	720	2,655	924
Rizal	18,000	267	73	390	124
Romblon	2,665				
Samar	6,915	197	75	338	188
Sorsogon	4,430	223	83	259	104
Sulu	4,523				
Surigao	2,040	33	15	538	431
Tarlac	69,966	1,029	112	3,752	611
Tayabas	10,378	242	107	382	122
Zambales	3,141	50	27	81	61
Zamboanga	778	55	43	27	44
Total	593,332	17,454	5,987	29,631	12,044

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[1] Compilation of reports received since January.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincial Form No. 70.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923 [1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [2]		Total	
	Positive	Negative	Positive	Negative
Abra	431	458	940	885
Albay	9,988	5,997	23,862	11,305
Antique	535	583	2,153	1,388
Bataan	485	194	2,090	854
Batanes	435	242	489	263
Batangas	4,349	5,920	17,208	17,052
Bohol	2,116	933	8,067	3,781
Bukidnon	92	154	700	972
Bulacan			11,146	3,709
Cagayan	384	140	6,221	1,318
Camarines Norte	210	317	605	507
Camarines Sur	446	355	3,528	1,932
Capiz	873	393	2,833	1,183
Catanduanes	137	551	1,428	1,412
Cavite			5,553	2,218
Cebu	1,004	627	16,642	9,649
Cotabato	530	1,297	907	1,653
Culion Leper Colony			18	25
Davao			2,504	1,935
Ilocos Norte	1,197	1,874	3,574	3,626
Ilocos Sur	1,638	1,051	9,105	4,482
Iloilo	1,094	348	6,545	1,988
Isabela	380	573	1,458	1,459
Laguna	884	851	6,948	3,666
Lanao	227	64	1,510	905
La Union	333	1,174	1,486	2,706
Leyte	3,280	827	21,226	4,574
Marinduque	634	522	1,658	1,212
Masbate	538	685	780	813
Mindoro	722	416	2,030	1,156
Misamis	154	194	1,752	1,569
Mountain	347	340	1,768	1,215
Nueva Ecija	137	226	2,957	1,452
Nueva Vizcaya	353	117	1,264	816
Occidental Negros	231	127	3,144	1,721
Oriental Negros	2,179	2,155	10,260	14,022
Palawan			2,221	685
Pampanga	430	355	3,607	1,346
Pangasinan	5,296	2,276	23,048	8,964
Rizal	404	312	6,851	3,595
Romblon			814	402
Samar	659	675	2,758	1,820
Sorsogon	235	108	2,146	930
Sulu			2,527	1,485
Surigao	284	234	855	680
Tarlac	6,996	6,057	29,694	20,884
Tayabas	1,034	547	6,401	2,830
Zambales	53	323	1,833	1,284
Zamboanga	27	74	385	342
Total	51,761	40,666	267,499	154,165

[1] Compilation of reports received since January.

[2] Taken from Provincial Form No. 70.

Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	2,065	1,153	46	15	......	......
Batangas	125	153	25	......	......	......
Capiz	72	93	65	48	......	......
Cebu	161	66	151	26	......	......
Laguna	41	102	3	......	......	19
Pangasinan	2	45	1	1	......	......
Sorsogon	33	21	31	9	......	......
Tayabas	201	168	......	......	......	......
Total	2,700	1,801	322	99	......	......

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	1,641	842	10	18	......	......	5,701	89	......
Batangas	116	108	......	......	......	......	502	25	......
Capiz	83	54	33	19	......	......	302	165	......
Cebu	100	60	81	15	......	......	387	273	......
Laguna	60	......	......	......	......	......	222	3	......
Pangasinan	5	42	1	1	......	......	94	4	......
Sorsogon	22	31	19	2	......	......	107	61	......
Tayabas	218	123	......	......	......	......	710	......	......
Total	2,204	1,320	144	55	......	......	8,025	620	......

[1] Compilation of reports received since January.
Other reports not yet received.
A—Persons of 15 and over 15 years of age; C—Below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2	11	2	10	36	97
Albay	13	2	7	......	8	1
Antique	126	94	47	60	8	6
Batangas	33	9	14	......	......	......
Camarines Sur	19	9	......	......	......	......
Catanduanes	77	6	77	6	......	......
Ilocos Sur	1,469	329	877	175	690	364
Laguna	238	63	127	42	48	31
Nueva Ecija	8	......	......	......	......	......
Pampanga	595	472	511	378	380	294
Pangasinan	831	719	590	556	487	507
Rizal	69	19	13	1	12	......
Zambales	305	344	275	95	239	74
Total	3,785	2,077	2,540	1,323	1,908	1,374

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	3	11	3	15	23	83	27	30	239
Albay	13	5	10	3	10	3	33	20	22
Antique	53	29	27	11	6	5	302	145	25
Batangas	16	14	......	......	......	......	72	14	......
Camarines Sur	12	11	......	......	......	......	51	......	......
Catanduanes	25	3	25	3	......	......	111	111	......
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Laguna	200	82	119	38	32	26	583	326	137
Nueva Ecija	3	......	5	......	......	......	11	5	......
Pampanga	655	457	512	389	362	291	2,179	1,790	1,327
Pangasinan	721	626	551	472	469	413	2,897	2,169	1,876
Rizal	73	18	27	4	11	......	179	45	23
Zambales	294	307	306	107	238	80	1,250	783	631
Total	2,851	1,939	2,393	1,228	1,637	1,145	10,852	7,484	6,064

[1] Compilation of reports received since January.
Other reports not yet received.
A—Persons of 15 and over 15 years of age; C—Below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	107	44	59	278	......	......
Antique	137	119	143	124	28	19
Bataan	252	28	106	14	......	......
Batangas	232	64	113	6	......	......
Bohol	138	16	118	6	......	......
Cagayan	230	6	44	......	......	......
Camarines Norte	96	12	74	3	......	......
Cotabato	89	38	......	......	......	......
Ilocos Norte	613	363	408	91	......	......
Ilocos Sur	520	78	147	82	14	......
Iloilo	162	154	168	98	......	......
Laguna	126	53	32	52	......	......
Lanao	40	15	5	8	......	......
La Union	447	328	273	124	......	......
Leyte	18	2	31	10	......	......
Marinduque	62	......	40	48	......	......
Masbate	218	143	242	89	......	......
Mindoro	178	25	82	15	22	......
Misamis	1	3	......	......	......	......
Nueva Ecija	173	89	92	79	44	23
Nueva Vizcaya	122	119	159	88	15	35
Oriental Negros	47	20	16	40	......	......
Pampanga	477	351	166	79	......	......
Pangasinan	31	16	1	2	......	......
Rizal	1,120	573	599	281	......	......
Tarlac	15	105	9	89	......	......
Tayabas	290	104	46	20	......	......
Zamboanga	44	8	......	......	......	......
Total	5,985	2,876	3,173	1,726	123	77

[1] Compilation of reports received since January.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1922[1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	57	64	48	249	......	......	272	634	......
Antique	116	127	101	96	7	31	499	464	85
Bataan	172	50	88	21	......	......	502	229	......
Batangas	256	97	124	48	......	......	649	291	......
Bohol	77	32	68	9	......	......	263	201	......
Cagayan	132	1	39	......	......	......	369	83	......
Camarines Norte	72	3	63	5	......	......	183	145	......
Cotabato	53	32	......	......	......	......	212	......	......
Ilocos Norte	379	286	158	86	......	......	1,641	743	......
Ilocos Sur	466	47	83	61	......	......	1,111	373	14
Iloilo	138	128	117	117	......	......	582	500	......
Laguna	56	13	16	55	......	......	248	155	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	391	261	219	110	......	......	1,427	726	......
Leyte	11	3	15	7	......	......	34	63	......
Marinduque	60	1	34	44	......	......	123	166	......
Masbate	71	110	80	93	......	......	542	504	......
Mindoro	78	45	37	32	2	......	326	166	21
Misamis	5	5	......	......	......	......	14	......	......
Nueva Ecija	130	90	69	38	17	8	482	278	92
Nueva Vizcaya	87	105	87	88	3	33	433	422	86
Oriental Negros	9	25	39	46	......	......	101	141	......
Pampanga	562	327	228	86	......	......	1,717	559	......
Pangasinan	25	17	3	4	......	......	89	10	......
Rizal	799	379	516	206	......	......	2,871	1,602	......
Tarlac	37	70	8	60	......	......	227	166	......
Tayabas	255	87	50	11	......	......	736	127	......
Zamboanga	18	7	......	......	......	......	77	......	......
Total	4,515	2,413	2,293	1,572	29	72	15,789	8,764	301

[1] Compilation of reports received since January.
Other reports not yet received.
A means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF MAY, 1923

Province and town	Cases	Deaths
Occidental Negros:		
Bacolod	2	....
Total	2	....

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF MAY, 1923

Province and town	Case	Death
Cotabato:		
Cotabato	1	....
Total	1	....

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending, April, 1923:						
Minor	24	12	39	33	15	123
Sewer	11	39	18	5	6	79
Vacating	1	15	8	2	3	29
Filling	5	2	13	5	5	30
Total	41	68	78	45	29	261
Orders issued during the month:						
Minor	1	3	2	....	....	6
Sewer	....	1	....	1	....	2
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	1	4	2	1	....	8
Grand total	42	72	80	46	29	269
Orders completed during the month:						
Minor	4	8	6	....	....	18
Sewer	....	1	2	1	1	5
Vacating	....	....	....	....	....	....
Filling	....	....	1	....	....	1
Total	4	9	9	1	1	24
Orders cancelled during the month:						
Minor	....	....	....	1	....	1
Sewer	....	....	....	....	1	1
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	....	....	1	1	2
Orders pending, during the month:						
Minor	21	7	35	32	15	110
Sewer	11	39	16	5	4	75
Vacating	1	15	8	2	3	29
Filling	5	2	12	5	5	29
Total	38	63	71	44	27	243
Strong material, plans approved:						
New buildings including additions and alterations	27	16	28	35	10	116
Permits for minor building constructions:						
Approved	18	15	18	21	12	84
Disapproved	2	2	4	4	2	14
New buildings completed	12	1	5	18	3	39
Light and mixed material construction:						
Permits approved	....	....	33	6	15	54
Permits disapproved	....	....	1	....	12	13
Total number of building projects passed upon	59	34	89	84	54	320
Prosecutions:						
Convictions	2	....	....	....	....	2
Dismissal	....	....	....	1	....	1
Amount of fines	₱ 25	....	....	....	....	₱ 25
Plumbing permits issued	17	31	19	37	17	121
Plumbing projects completed	22	23	18	34	20	117
Premises connected to the Sanitary Sewer to April 30, 1923	1,656	2,830	1,052	555	412	6,505
Premises connected during May, 1923	6	4	7	3	....	20
Total	1,662	2,834	1,059	558	412	6,525

Intramuros includes Ermita and Malate; Meisic includes Santa Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Santa Mesa; Paco includes Pandacan and Santa Ana.

APR 22 1924

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III JUNE, 1923 No. 6

I hold the unconquerable belief that science and peace will triumph over ignorance and war, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.

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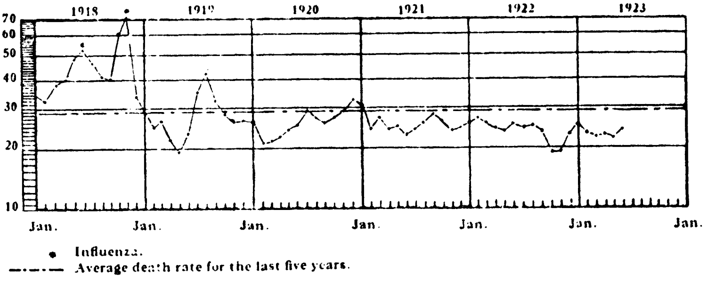

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III JUNE, 1923, No. 6

THE CULION LEPER COLONY

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and
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[Abstracted]

INTRODUCTION

The Culion Leper Colony is an institution that in many respects is unique. It is the largest well-organized leprosarium in the world, contains large numbers of cases of all types of the disease, and offers unusual opportunities for the study of the disease and its treatment. Nevertheless, it has not become so well known as it should be either by the general public or the medical profession. There is a natural repulsive suggestion in the thought of any leper asylum, which has often been exaggerated to an unreasonable extent in the case of Culion by stories concerning it that have been circulated. As a scientific institution, little recognition has been earned for it; until very recently personnel and facilities have been insufficient to carry on the type of work that alone can make such an institution of world-wide importance.

As a result of the increase of interest in the treatment of leprosy resulting from work in India and Hawaii, the Leprosy Investigating Committee of the Bureau of Health was able to secure provision in 1921 for starting modern work at Culion on a small scale. The very keen and active interest of Governor-General Wood resulted, early in 1922, in the expansion of this work to a more nearly adequate scope. The knowledge of leprosy from the viewpoint of modern medical science is so inexact, and the problem of its treatment is so important, that there can be no doubt that this work will be productive of results of some importance; and in view of this fact it has been felt that a description of the colony and of the work now being done will be of interest.

EARLY LEPROSY WORK

The early history of leprosy in the Philippines is hidden in obscurity, and is not of present importance. The disease has probably been here for a very long time, for there has for many centuries been intercourse with China and other leprosy-infected countries.

During the Spanish régime, some work was done by the ecclesiasticals for the special care of lepers. The first provision for them in Manila is said to have been a separate ward established in 1633 by Franciscan friars in their general hospital. A century and a half later, in 1784, Charles III of Spain gave the San Lazaro estate to the Franciscans to establish a leper hospital. This work was carried on until September, 1898, when San Lazaro Hospital was turned over to the American military authorities. There were two other leper hospitals in the Philippines, one at Cebu, the site of which is still used for a detention depot, and one at Palestina, Nueva Caceres. It is said that in many of the larger towns there were groups of lepers more or less isolated, usually in old bamboo-and-nipa shacks. They were outcasts, without regular support or medical attention; and although they were accessible to friends, the condition of many was extremely miserable.

The object of what regular work was done for the lepers during this period was humanitarian; it was not done for the purpose of eliminating the disease, as is segregation today. The hospitals were primarily for the care of the needy cases, and the inmates were apparently not strictly detained. It has been suggested that the very high leprosy incidence in Cebu may be due to the dissemination of the disease by escaped lepers who took up residence in nearby towns.

ESTABLISHMENT OF THE COLONY

From the outset, both the American military and civil authorities were convinced of the desirability of instituting the systematic segregation of lepers. Two islands, Culion and Cagayan de Jolo, were investigated as to their desirability for this purpose, and Culion was finally selected in 1901. Work was at once begun to establish the colony centrally in the island, the approach to be by three miles of river and two of trial from a fine harbor in the southern portion of the island; but after nearly a year of preparation, this location was abandoned on account of inadequate water supply, and the little village of Culion was selected. Construction work here did not begin until 1905; but in May, 1906, the work had advanced sufficiently to permit the transfer of about 500 lepers.

The situation at the colony was at first difficult. This fact was not surprising, as the staff was very small, consisting of one physician, Dr. C. F. de Mey, four French Sisters of Charity of the Order of St. Paul de Chartres, one Spanish priest, and a few subordinate employees. It was difficult to obtain labor willing to work in the colony. The condition of the lepers when they came was extremely bad as a result of long neglect, and their care was made difficult by the inadequacy of facilities. During the organization period, the inmates undoubtedly had much to complain of; but this condition was to some extent unavoidable. Conditions slowly improved, so that at the present time the situation is very different.

THE PRESENT COLONY

Culion Island, very irregular in outline, measuring roughly 11½ miles in a north and south direction, and nineteen miles in its longest diameter, with a total area of approximately 150 square miles, is one of the Calamian group, which constitutes the northern portion of the Province of Palawan. With two other large islands and many small ones, it surrounds a bay some 10 miles long, to which three deep-water passages lead.

The colony is on the bay side of the island and is everywhere surrounded by vistas of unusual beauty. As one approaches it by water, particularly in the dry season, an unfavorable first impression is gained of a parched, poverty-stricken settlement on stony hillsides; but the truth is that the colony is for the most part a nipa-roofed Philippine town of 5,000 inhabitants, more orderly, more cleanly, and with its water system, electric lights, and ice plant, more advanced than most towns of similar size. While it is true that there are unfavorable featurs, nevertheless, Culion is not more unattractive than are many districts in the Philippines during the dry season. The beauties of the surrounding waterways and hilly little islands, the surprising response of the soil to treatment in the rainy season, and the simple, orderly, not uncheerful lives of the inmates greatly modify for the resident the unpleasant first impressions.

The institution includes the non-leper staff headquarters, Balala, and the colony proper. In none of these districts, which together occupy but an insignificant bit of the island, is there any level ground that has not been made by cutting or filling. This character is distinctly favorable from the viewpoint of town sanitation. From the sea, the colony begins as a rocky promontory, 30 meters high, crowned by a fine old Spanish church. Below this level is one of the two treatment clinics with its nipa-roofed hospital, and several dormitories for children. Hospital Plaza, 18 meters above the sea, occupies the artificially-broadened saddle between this and the higher 50-meter hill on and about which the greater part of the colony is built. This hill in turn drops back in one direction to another broader saddle, 30 meters above the sea, known as Worcester Plaza in honor of the Hon. Dean C. Worcester who, as Secretary of the Interior, played a leading part in the establishment of the colony. This saddle connects "Topside Hill" with the high L-shaped ridge behind the colony; elsewhere the hill drops by flanking slopes to sea level. Balala is on the slope to the westward, a full ten minutes away from the center of the colony; the southern slope drops abruptly to a large amphitheatrelike hollow into which the town has extended.

Farther to the south, separated from the colony proper by a kilometers of steep hillside, is the Pilapilan district, a triangular flat of some six hectares of tillable soil, much of which the colonists are now cultivating. To the east of this district is the site selected for the proposed "negative colony" for cases that have become negative since coming to Culion. The less abrupt of the slopes that shut this flat in on three sides are fairly extensively planted, chiefly with banana, pineapple, and papaya. Some two or three miles west of Pilapilan is a much larger agricultural district, Baldad. Elsewhere the island offers a wide range of conditions, from open cogon-grass plains to dense tropical forests, from fertile river flats to stony little mountains. There is little spreading out by the colonists except along the coast, as there are no roads and but a few foot-trails.

The site originally selected for the colony was chosen with a view to encouraging agriculture, particularly cattle-raising; but desirable as this plan would be, it is doubted whether the colony would have developed along those lines. At the present time less than 800 inmates live outside of the colony proper, carrying on agriculture, usually desultorily, or fishing; most of these are people from the Ilocos, Iloilo, and Cebu Provinces.

The total area covered by the colony proper is estimated to be about 40 acres. On this space there are more than 600 houses of lepers and all of the Government buildings. Drainage is provided for in some districts by concrete gutters and conduits. The water-supply is from a small mountain stream, from which a four-inch pipe line more than two kilometers long leads to a tank from which most of the colony is supplied with running water.

The Government-owned buildings constitute a considerable group. On the Balala flat are the Administration Building, a general kitchen and mess hall, laundry sheds, a concrete barracks buildings now used for male nurses and others, the house of the chaplains, a wooden four-apartment house for married physicians, a wooden bachelors' quarters for the unmarried doctors, a nipa-roofed nurses' home, storehouses for supplies, a shed for the carpenters and mechanics, the wharf, a basin for small boats, and the three small buildings and the radio tower of the Bureau of Posts. On the hillside above are seven residences, mostly occupied by senior members of the staff, a temporary hospital for non-leper laborers and others, and the house of the Protestant missionary just completed. The laborers live in a separate barrio a little to the west. Balala is supplied with water by a very fine spring.

The administrative center of the colony itself is colony hall, with the court-room of the chief of the colony above and the Government store and the post office below. Nearby is the general kitchen, where daily rations are issued. Other structures include a distributing shed for the weekly rations, headquarters for the Public Works division, including among others plumbers, tinners, painters, carpenters, firemen, and street cleaners; a crematory for the town garbage; a sort of jail and detention quarters for insane; and a quarantine station for newcomers. One building is devoted to the school, with five grades, supported by the Bureau of Education, and another houses the Leper Club, with its piano, pooltable, and much old-reading matter.

In the various dormitories and other Government buildings, a total of about 2,000 persons are housed; 1,350 adults, and 650 children. Some of these are concrete "tisas" or "tenement houses," five-room structures for 12 persons in each room. There are now seven of these tenements, and four wooden barracks for fifty inmates each which were built last year.

Smaller groups are accommodated in other buildings. For children and young people, there are ten dormitories of various sizes. Two were built mainly by the Catholic authorities, and two small ones by the American mission for lepers (Protestant). Most of the colonists, more than three thousand, are living in houses built and owned by themselves, or rented from other lepers.

For the medical work there was, previous to 1921, only the so-called General Hospital, with six wards holding 300 beds, a kitchen, and a small morgue. At the present time, after some rearrangements, there are seven wards with 265 beds, distinctly less crowded. A large kitchen has been built, and the old one is to be converted to the hospital pharmacy. The old pharmacy room is to be fitted up for a surgical operating-room. There are office rooms, an ulcer-dressing clinic conducted by Sister Calixte, one of the two Sisters still remaining of the first group to come to Culion before the first patient arrived, a newly organized medical clinic, a class-room for the leper nursing aids, and a medical supply depot from which the wards are now furnished minor supplies. One of the wards is in a small separate concrete building which, it is expected, will be used as a radiotherapy department as soon as the necessary equipment can be obtained. One ward building has been taken over for a laboratory and office buildings; the patients have been provided for in two buildings previously used as tenements.

Anti-leprotic treatment is given separately from the hospital. There are two clinics, quartered in buildings built for other purposes. Near each has been erected an "emergency" hospital for the care of cases under treatment requiring hospitalization. These hospitals, of 50-bed capacity, cost from ₱4,000 to ₱6,000 each. A small clinic has been erected in the low Pilapilan district to facilitate combating malaria, as well as to give anti-leprotic treatment to the residents. The people living in the Baldad district have now petitioned for a similar clinic.

The administrative center of the treatment work is now in what was a ward, where the offices of the chief physician and the chief nurse and the headquarters of the pathological and chemical sections have been installed. Until February of the present year, the pathological section was quartered in a single large room in one of the clinics. This arrangement had been made in 1921 when there was only the most rudimentary equipment, and a single laboratory man doing part-time clinical work. In the newly-arranged quarters, there is provision for the pathologists and the technical assistants, with a preparation room, a small examining room, and small but adequate dark-rooms. The equipment is now adequate for much of the work planned for. The chemical research laboratory is in the same building. This laboratory is equipped for such special work as has been anticipated will be needed. The manufacturing chemical plant is entirely separate, and has been in operation since September, 1922. Worked at capacity, the plant can yield in a month about 100 liters of chaulmoogra ehtyl-esters or equivalent products.

GENERAL ORGANIZATION

The entire Culion reservation is the property of the Philippine Health Service, and is strictly reserved. The chief of the colony, as the representative of the Director of Health, functions as general administrator, justice of the peace, and counselor of the inmates. Until recently, his responsibilities included the medical service; but as the institution grew in size and complexity of system, it became necessary to pay more and more attention to the administrative work, and with the final increase of staff in 1922 the fields of operation were divided. The chief physician is now responsible for the work of the medical section and the professional performance of its personnel. The chief pathologist and the chief chemist are similarly in charge of their fields.

The non-leper staff of the administrative section consists of a few permanent employees, and a considerable but variable number of temporary employees, including those of the office, store-room, kitchen and bakery, the shop and construction forces, the sanitary personnel, and miscellaneous labor.

In the colony, practically all of the routine work is done by leper employees. There is a well disciplined corps of leper police, and a corps of "firemen" drilled in simple fire-fighting tactics. The members of the staffs of the general kitchen, the Government store, the colony post office, the Public Works department, the sanitary department, the court, the band and orchestra, are all lepers. Most of the routine nursing and all of the service work of the hospitals and clinics is also done by leper employees.

The government of this fair-sized town is carried on by the chief of the colony, in part through and with the aid of an Advisory Board, an elective body of which he is *ex-officio* the head. The political division is by racial sub-groups, as the Tagalogs, Cebuanos, Ilocanos, etc.

For amusement, there is some provision. Cinematograph shows are given irregularly, and a brass band and a string orchestra play alternately on Sundays and Thursdays in the main plaza. Cockfighting is permitted on Sundays and holidays, heavy betting being prohibited by regulation. A few pool and billiard tables are operated privately. Indoor baseball is played occasionally, and a tennis and volley-ball court has recently been laid out.

All of the food staples are brought from Manila and distributed once a week. Besides rice, mongo, beans, lard compounds, sugar, tea, coffee, garlic, onion, canned tomato, and other things are issued. The fresh fish allowance is 250 grams daily, but usually this ration has had to be substituted in some part by canned salmon or sardines or by mongo. The amount needed daily is 1,300 kilos, where as for 1922 the daily catch averaged but 400 kilos. Until February, 1923, this haul was gotten entirely by leper fishermen; but recently a crew of Japanese fishermen has been obtaining sufficient quantities to fill the daily quota. Beef produced on nearby islands is issued once a week. Of vegetables, there is a lack; because of high ultimate costs, little more than onions, garlic, and sweet potatoes are shipped from Manila, and for the most part such products as can be purchased from leper farmers are depended on. Steps have been taken to encourage the lepers to plant vegetables.

Clothing is issued once or twice a year, but the amount available for this item is small. This is one of the incentives to self-help on the part of the inmates. A regular "gratuity" money allowance of ₱0.20 a week is paid to each child, woman, and incapacitated adult male; but by mutual agreement it is not paid to able-bodied men, and the fund so saved is used to pay miscellaneous leper labor. Among the remunerative occupations engaged in by the inmates are Government-supported activities and various private enterprises, including the keeping of small stores, agriculture, fishing, wood-cutting, bamboo-working, shoemaking, and baking.

From some viewpoints, it is unfortunate that the Government cannot afford to provide for all of the inmates more fully, particularly as regards housing and clothing; but it cannot be denied that for the majority, some regular light occupation to keep them fit in mind and body is desirable. It would undoubtedly be harmful for the average active leper, as for the average healthy ordinary human being, to have all of his wants fully met without effort. And the cost of doing this work of charity would be prohibitive.

That the Government cannot be expected to support the lepers much more abundantly will be apparent when it is considered that for 1923 more than ₱1,000,000, about 1.6 per cent, of the estimated ₱65,000,000 total income of the Government, will be spent on one phase or another of leprosy work.

The Philippine Anti-Leprosy Society was organized late in 1921, primarily to raise funds to aid the Government to provide the lepers with better treatment and care; but except for the purchase of steam-laundry machinery, a smalll motion-picture machine, and school books or the fifth grade, it has been able to do little as yet. The local lodge of the Knights of Phythias has shown much interest in the work of late, and it started a campaign for an appropriation of $1,000,000, chiefly to build, equip, and endow adequately a research laboratory. A local drive netted a small amount that was used to equip a small electrically-equipped tailor shop, but the endowment has not yet been obtained.

TREATMENT WORK

Under the term "treatment work" is included, besides the activities of the medical section, with its anti-leprotic treatment clinic and the general care of sick lepers, those of the pathological section, with its routine examinations, autopsies and special work, and of the chemical section, which manufactures all of the anti-leprotic preparations used and is engaged in the study of new ones.

Most of the personnel of these sections is provided for by a special act of the Legislature passed early in 1921, which limits the number of "médicos y técnicos" to 20, in addition to the three physicians, not including the chief of the colony, who were already at Culion when the act was passed. Interpreting "técnicos" to include graduate chemists, but not semi-skilled technical assistants, all but one of the 20 positions, that of the permanent chief physician, are now filled. Two years ago there were only four physicians, including the administrator, who could do little medical work. One of the others served also as pharmacist, so there were practically the equivalent of but two and a half men to care for 300 hospital patients, a daily "dispensary" clinic of 50 to 80 cases, and calls from outside the hospital. Thus undermanned, the work was necessarily palliative. There are at the present time fifteen physicians, including the chief physician, in the clinical section alone. Two groups, comprising two supervising physicians and nine treating physcians, are in charge of the treatment clinics, and three men are assigned to the General Hospital.

On the nursing staff, there are ten Sisters of Charity, who concern themselves solely with the General Hospital. It is impossible fully to evaluate the work of these noble women who, since the colony was begun, have worked with unflagging devotion under most monotonous and sometimes extremely trying circumstances. There are also 20 graduate nurses, of whom at the present time 11 are women and 9 men. These are under the authority of the chief nurse, and are assigned to the treatment clinics, the attached emergency hospitals, and to the General Hospital to assist the Sisters in technical matters. One is attached to the negative children's home and the infirmary in Balala. The staff of leper nursing aides is an important factor in the work. Formerly known as leper attendants, permanently employed, without instruction, they have so far as possible been put on the basis of students in a training school, with regular classes and periodic examinations. Considerable improvement in service has already resulted.

A competent pharmacist has been added to the staff. He is assisted in the colony pharmacy by one of the Sisters, and so is able to fill the recently created office of medical supply officer. A dentist has for some years kept an office in a somewhat inaccessible room, but this office will shortly be moved to better quarters and a campaign of education started to persuade the colonists to take better care of their teeth.

The staff of the pathological section nominally consists of a chief pathologist and two assistants, with three technical assistants of various degrees of training; the present chief pathologist has found it possible to devote but little time to this work on account of other temporary duties. Aside from routine clinical laboratory examinations, autopsy work is the most important activity of the section. No laboratory studies could be carried on in the crowded quarters until very recently occupied.

The staff of the chemical section, under Dr. Granville A. Perkins, formerly of the Bureau of Science, Manila, includes two assistant chemists, graduate pharmacists, and two semi-skilled helpers. This section manufactures all of the preparations that are used for anti-leprotic treatment, chiefly the ethyl-esters of chaulmoogra oil, plain and iodized, and on a small scale the ethyl-esters of cod liver oil and the Mercado mixture; the Rogers solutions of sodium salts were discontinued after several months use in 1921. Doctor Perkins is working on the preparation of materials that will prove more active, or less harmful, than those now in use.

The *modus operandi* of the medical section is necessarily very different from those of most medical institutions. As has been said, anti-leprotic treatment is given in the two treatment clinics, separate from the General Hospital. Each of the nine clinic units is manned by a physician, a nurse, and two leper nursing aides. An average of nearly 500 cases is registered in each of these units, totalling more than 4,200 cases. Among these cases are many persons who, on account of pulmonary tuberculosis, nephritis, or other conditions are not suitable for anti-leprotic treatment; so each unit physician has had a "dispensary" group supposed to report regularly for observation and such treatment as might be indicated.

Patients of a clinic, whether treatment or dispensary cases, who require temporary hospitalization, are placed in the clinic hospital; the women of all clinics are accommodated in a General Hospital ward pending the erection of a separate building for them. The General Hospital proper is reserved for advanced cases of leprosy, tuberculoisis, nephritis, etc., that are unsuitable for clinic treatment and require hospital care. Not a few of the patients are in good health, but are crippled and require nursing. Surgical and other instruments have now been procured for the improvement of the hospital work, and additional equipment will be added this year if sufficient appropriation is obtained.

After a year of organization and preliminary observation, it has been found necessary to make certain changes in the system adopted last year. The clinic registration cannot well be increased without more staff, and this increase has not been allowed; yet new, favorable cases, some of them volunteers, are coming to Culion and are appealing for treatment. Furthermore, the present available methods can and should be improved, so it is imperative that clinical and laboratory research be pushed. To meet these conditions, certain readjustments are being made so that unsuitable cases can be taken from the clinic lists and new cases substituted. The dropped cases will be assigned to a special dispensary clinic where they can be given more uniform treatment. The study of tuberculosis, nephritis, and other complications of leprosy can be centered here. A small research group is being organized for special investigations, and the other members of the staff are being encouraged to engage in some special observation.

TREATMENT OF LEPROSY BY ANTIMONY

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[An abstract]

Even though the most modern chaulmoogra treatment for leprosy is greatly superior to the older methods, there is still much room for improvement. In Culion, as well as elsewhere, efforts are being made to this end. When, therefore, any worker reports superior results by some new method, it is necessary to investigate the validity of the assertion. Only very recently, Cawston,[1] of Natal, asserted that very promising results with some of the compounds of antimony had been secured, and his findings were confirmed by Wildish..[2] These workers employed a colloidal preparation of antimony principally, although equally good results were obtained with the use of tartar emetic intravenously and also with antimony wine undiluted or given in cough mixture. They noticed, within a short time, relief of paralysis, drying up of ulsers, and improvement of the general condition. The results claimed are remarkable inasmuch as many of the patients were advanced lepers, some of them "poor cripples awaiting death." Doctor Cawston brought the attention of the Culion authorities to his encouraging results, and we were requested to try them out on cases under our care.

Thirty patients of the General Hospital were given tartar emetic intravenously; twelve received antimony wine in cough mixture, and ten antimony wine undiluted. These treatments were given for six months. Twelve other patients received, for three months only, a modified Castellani mixture, which contains tartar emetic and potassium iodide. We were not able to try out the proprietary colloidal preparation "oscol stibuim;" but according to Clark[3] this preparation offers no advantage over the simple tartar emetic solution.

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[1] Cawston, F. G. Antimony in Leprosy—Brit. Med. Journ., 1920, 1 76–77, (July 17); 2 855–856, (Dec. 4); 1921, 1, 419, (Mar. 19).

[2] Wildish, G. H. Antimony in Leprosy—Brit. Med. Jour. 1922, Jan. 14, p. 55.

The patients selected were mostly males, the majority being more than 30 years of age, and the average duration of the disease about 11 years.

By the intravenous method, using a fresh one per cent solution of tartar emetic in water, we have been able to give only the very small average dose of 0.0015 gram of tartar emetic a week. When we tried to increase this dose, various ill effects were noticed in our patients. The most serious complication so produced was irritation of the kidneys, as evidenced by the urine examination. Diarrhea also proved to be a dangerous symptom when it appeared in the cases receiving tartar emetic intravenously. Two of three patients presenting this symptom died. We also tried to increase the frequency of injection on two of the most promising patients but the results proved disastrous. Both became very weak, and one of them died from the effects of a big ulcer of the larynx which was evidently produced by the injections. The tuberculous process of the lungs in several cases was also aggravated.

Administered orally in the form of *vinum antimonii*, the highest dose of tartar emetic that could be given was 0.252 gram a week. In the Castellani mixture, 0.2275 gram weekly was given. The latter was found to produce exacerbation of the disease, which proved harmful.

No improvement of the leprosy itself was noticed in any of the patients treated. On the whole, the general condition was unfavorably effected. Six of those in the intravenous group and one in the Castellani mixture died during the period of observation, in spite of the fact that medication was stopped as soon as evidence of injury was detected. At the autopsy, injury to the kidneys, cloudy swelling of the liver, and exacerbation of the tuberculous lung lesions were found in five of the seven deaths, some at least of which was probably due to the medication. In 25 per cent of the other cases in the intravenous group and 42 per cent in the Castellani group the ulcers were improved to some extent. These improvements were noticed mostly in the ulcers of nodules, which were of short duration. Tartar emetic was also tried in cases with the so-called "lepra fever," with indifferent results.

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[3] Clark, A. J. The Properties of Certain "Colloidal" Preparations of Metals. Brit. Med. Jour. 1923, Feb. 17, 3242, p. 273-277.

A case of extensive ulceration, probably due to tertiary yaws, injected for about two months, showed marked improvement and none of the ill effects on the kidneys that was so noticeable in the leper.

The dose we have been able to give is much lower than the amounts that have been given with impunity in the other diseases. This difference is not surprising as the kidneys of the many of the advanced lepers at Culion are found to be more or less seriously damaged.

CONCLUSIONS

1. Antimony in the form of tartar emetic, *vinum antimonii*, and Castellani's yaws formula, as we have employed them, appears to be of no real therapeutic value as a means of treating leprosy.
2. Tartar emetic appears to improve some of the ulcerations so commonly found in leprosy; but because of its irritating properties and the fact that it promotes wasting, its use in this connection, instead of more efficient and less harmful drugs available, is not justifiable.
3. These preparations should be used cautiously on lepers, especially those in the more advanced stages of the disease. The intravenous medication has, in our experience, proved injurious to the kidneys, which in the majority of these cases showed considerable damage. The same treatment also accelerates pulmonary tuberculosis. The Castellani formula tends to excite leprous reaction and is irritating to the stomach.

We are indebted to Dr. H. W. Wade, chief pathologist and acting chief physician of the colony, at whose suggestion this work was initiated, for valuable help given us in the preparation of this paper. We also wish to express our thanks to Dr. C. B. Lara, supervising physician of clinic 2, for calling our attention to the use of tartar emetic in lepra fever in his clinic and for help in gathering data on the cases so treated.

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of June, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

JUNE, 1923

Date	Pressure [1] (mean)	Temperature						
		In shade [2]					Underground	
							0.60 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a.m. mean	2 p.m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	756.91	27.0	34.0	3	22.4	1	30.0	30.1
11-20	57.32	26.4	33.6	15	23.0	20	29.5	29.6
21-30	56.97	25.6	33.0	25	22.0	30	28.8	28.8

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

JUNE, 1923

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	84,9	92,0	8	79.1	1
11-20	87.6	92.7	11	82.9	14
21-30	88.6	93.8	23	82.5	25

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW. quad	2,552.0	542.5	5	22.9	3.8	3
11-20	E. SW.	2,076.5	481.0	18	17.9	3.3	14
21-30	SW.	2,425.5	845.0	29	13.3	3.9	24

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	25 10	6 45	2	65.2	9
11-20	20 35	6 25	14	126.8	7
21-30	20 20	6 35	24	279.9	8

[2] These values are taken from instrument mounted in the Observatory Parks, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	10	4	14	54.39
Filipinos	596	540	1,136	49.82
Spaniards	5	1	6	37.36
Other Europeans	1	3	4	43.25
Chinese	23	28	51	34.77
All others	3	4	7	38.99
Total and average	638	580	1,218	48.80

BIRTHS, BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	138	140	278	15	13	28	306	99.71
No. 2, Meisic	100	83	183	3	10	13	196	22.93
No. 4, Sampaloc	116	91	207	8	7	15	222	54.80
No. 5, Tondo	184	169	353	13	9	22	375	56.66
No. 6, Paco	56	52	108	5	6	11	119	44.52
Total	594	535	1,129	44	45	89	1,218	48.80

Number of births attended by physicians, living, 361; stillbirths, 23.
Number of births attended by midwife, living, 94; stillbirths, 2.
Number of births attended by family, living, 763; stillbirths, 20.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	1	3	11.65
Filipinos	337	275	612	26.84
Spaniards	1	2	3	18.68
Other Europeans	2	....	2	21.62
Chinese	12	4	16	10.91
All others	....	2	2	11.14
Total and average	354	284	638	25.56

TOTAL DEATHS BY SOCIAL CONDITION, INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	113	80
Divorced	....	....
Widowed	36	48
Single	268	190
Condition not stated	....	3
Total	417	321
Grand total	738	

Stillbirths	45
Number of deaths with medical attendance	337
Number of deaths without medical attendance	401

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	47	32	2	....	81
30 days to under 1 year	79	50	11	10	150
1 year to under 2 years	32	35	2	4	73
2 years to 4 years	28	26	2	3	59
5 years to 9 years	9	7	....	....	16
10 years to 14 years	4	5	3	1	13
15 years to 19 years	10	10	6	1	27
20 years to 29 years	26	25	8	3	62
30 years to 39 years	25	25	8	6	64
40 years to 49 years	31	18	6	1	56
50 years to 59 years	19	9	8	2	38
60 years to 69 years	19	14	2	3	38
70 years to 79 years	15	9	3	2	29
80 years to 89 years	7	11	1	1	20
90 years to 99 years	3	7	....	....	10
100 years and over	....	1	1	....	2
Age not stated	....	....	....	....	....
Total	354	284	63	37	738

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	119	38.78
No. 2, Meisic	103	12.05
No. 4, Sampaloc	120	29.62
No. 5, Tondo	322	48.66
No. 6, Paco	74	27.69
Total	738	29.67

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			6	8									14
4. Malaria			1										1
10. Influenza			2										2
14. Dysentery			5	1									6
17. Leprosy			2	1									3
19. Other epidemic diseases				1									1
20. Purulent infection and septicæmia				3									3
24. Tetanus			4	6									10
27. Beriberi			1										1
27a. Beriberi, infantile			25	17					2				44
28. Tuberculosis of the lungs			60	46						1			107
29. Acute miliary tuberculosis	1												1
30. Tuberculous meningitis			3	2					1				6
31. Abdominal tuberculosis			4	3									7
34. Tuberculosis of other organs				1									1
37. Syphilis			1						1				2
40. Cancer and other malignant tumors of the stomach, liver			1							1			2
42. Cancer and other malignant tumors of the female genital organs				1									1
43. Cancer and other malignant tumors of the breast				1									1
44. Cancer and other malignant tumors of the skin				2									2
45. Cancer and other malignant tumors of other organs or of organs not specified			2	1									3
47. Acute articular rheumatism			1										1
48. Chronic rheumatism and gout			2										2
50. Diabetes									1				1
54. Anæmia, chlorosis			1										1
55. Other general diseases			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalities				1									1
61. Simple meningitis:													
(1) Simple meningitis			13	13									26
(2) Cerebro-spinal meningitis (undefined)			1	1									2
64. Cerebral hæmorrhage, apoplexy			7	2	1								10
67. General paralysis of the insane			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense—Ctd.													
68. Other forms of mental alienation		1	5	1									7
69. Epilepsy			1										1
71. Convulsion of infants (under 5 years of age)			1	1									2
III. Diseases of the circulatory system													
78. Acute endocarditis			1	1									2
79. Organic diseases of the heart			3	4		1							8
IV. Diseases of the respiratory system													
89. Acute bronchitis			25	16						1			42
90. Chronic bronchitis			6	9					3				18
91. Broncho-pneumonia			28	28					3	1			60
92. Pneumonia			5	4									9
93. Pleurisy				1			1						2
94. Pulmonary congestion, pulmonary apoplexy				1									1
V. Diseases of the digestive system													
100. Diseases of the pharynx				2									2
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)			15	10							1		26
105. Diarrhœa and enteritis (2 years and over)			13	7									20
107. Intestinal parasities			1	1									2
108. Appendicitis and typhlitis			2	1									3
109. Hernias, intestinal obstructions			5	1									6
113. Cirrhosis of the liver	1			2									3
114. Biliary calculi							1						1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			6	4									10
120. Bright's disease			4	9		1							14

123. Calculi of the urinary passages				1									1
126. Diseases of the prostate			1										1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				2									2
138. Puerperal albuminuria and convulsions				2									2
VIII. Diseases of the skin and of the cellular tissue													
142. Cangrene			1	1									2
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart			1										1
(3) Other congenital malformations			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			3	3									6
(2) Congenital debility			32	20					1				53
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			6	2									8
XII. Old age													
154. Senility			12	22									34
XIII. Affections caused by external causes													
157. Suicide by hanging or strangulation												1	1
160. Suicide by cutting or piercing instruments			3										3
169. Accidental drowning			4	1									5
175. Traumatism by other crushings (vehicles, railways, landslides, etc.)			1										1
181. Electricity (lightning excepted)			1										1
183. Homicide by cutting or piercing instrument				2									2
184. Homicide by other means												1	1
185. Fractures (cause not specified)			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			3	2									5
Total	2	1	336	275	1	2	2		12	4	1	2	638
Grand total	3		611		3		2		16		3		638

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			3	1					1				5
4. Malaria			1	1									2
19 Other epidemic diseases			1										1
24. Tetanus			1										1
27. Beriberi			1										1
27a. Beriberi, infantile			1										1
28. Tuberculosis of the lungs			7	1									8
31. Abdominal tuberculosis			10	4					4				18
35. Disseminated tuberculosis			1										1
39. Cancer and other malignant tumors of the buccal cavity									1				1
40. Cancer and other malignant tumors of the stomach, liver				1									1
45. Cancer and other malignant tumors of other organs or of organs not			2										2
specified			1	1									2
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			3	1									4
68. Other forms of mental alienation			2										2
69. Epilepsy				1									1
III. Diseases of the circulatory system													
79. Organic diseases of the heart				1									1
IV. Diseases of the respiratoy system													
89. Acute bronchitis			3	4									7
90. Chronic bronchitis				1									1
91. Broncho-pneumonia			1	1									2
92. Pneumonia			2	2					1				5
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			1	4									5
105. Diarrhœa and enteritis (2 years and over)			1										1

109. Hernias, intestinal obstructions			1										1
115. Other diseases of the liver			2										2
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis				3					1				4
120. Bright's disease	1		1	3									5
123. Calculi of the urinary passages			1										1
124. Diseases of the bladder				1									1
132. Salpingitis and other diseases of the female genital organs												1	1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
VIII. Diseases of the skin and of the cellular tissue.													
142. Gangrene			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			2	2									4
XII. Old age													
154. Senility			1	1									2
XIII. Affections caused by external causes													
157. Suicide by hanging or strangulation									1				1
170. Traumatism by firearms			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2										2
Total	1		53	36					9			1	100
Grand total	1		89						9		1		100

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Influenza					1	1
24. Tetanus				8	2	10
27a. Beriberi, infantile	2			4	46	52
30. Tuberculous meningitis					1	1
31. Abdominal tuberculosis					2	2
61. Simple meningitis:						
(1) Simple meningitis					11	11
71. Convulsions of infants					2	2
89. Acute bronchitis				1	31	32
90. Chronic bronchitis					7	7
91. Broncho-pneumonia				1	13	14
92. Pneumonia					2	2
93. Pleurisy					1	1
94. Pulmonary congestion, pulmonary apoplexy				1		1
104. Diarrhœa and enteritis					16	16
115. Other diseases of the liver					1	1
119. Acute nephritis					4	4
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart				1		1
(3) Other Congenital malformations				1		1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not still-born)	2			3	1	6
(2) Congenital debility	8	3		18	28	57
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	2			4	2	8
184. Homicide by other means					1	1
Total	14	3		42	172	231

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,040
Number of rats caught by spring traps	3,207
Number of cage wire traps set	696
Number of rats caught by cage wire traps	6
Number and kind of baits (coconuts)	21,736
Number of poisons portion placed	25,355
Number of rats found poisoned	238
Number of rats killed by clubs and other weapons	1,720
Number of rats found dead from other causes	1,063
Total number of rats otherwise caught, found dead or killed	6,234
Total number of rats sent to the laboratory for examination	6,234
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JUNE, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts No. 1 Hospital	 No. 1 Home	 No. 2 Hospital	 No. 2 Home	 No. 4 Hospital	 No. 4 Home	 No. 5 Hospital	 No. 5 Home	 No. 6 Hospital	 No. 6 Home	Total
Living:											
Male	4	......	10	......	2	......	9	......	5	......	30
Female	1	......	3	......	2	......	9	......	2	......	17
Dead:											
Male	......	......	1	......	......	......	2	......	......	......	3
Female	......	......	3	......	1	......	1	......	1	......	6
Total:											
Male	4	......	11	......	2	......	11	......	5	......	33
Female	1	......	6	......	3	......	10	......	3	......	23
Grand total	5	......	17	......	5	......	21	......	8	......	56

DEATHS

Sex	Health districts No. 1 Hospital	 No. 1 Home	 No. 2 Hospital	 No. 2 Home	 No. 4 Hospital	 No. 4 Home	 No. 5 Hospital	 No. 5 Home	 No. 6 Hospital	 No. 6 Home	Total
Male	......	......	1	......	2	......	2	......	1	......	6
Female	......	......	2	......	2	......	2	......	2	......	8
Total	......	......	3	......	4	......	4	......	3	......	14

Total cases reported within the month in the City of Manila		96
Resident cases	69	
Non-resident cases	27	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		19
Deaths among resident cases	14	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		84
Autopsy	0	
Blood culture	0	
Clinically positive	74	
Fæces	0	
Widal reaction	10	
Confirmed cases as paratyphoid		0
Cases not confirmed		12

Carriers—None.

DYSENTERIES REPORTED DURING THE MONTH OF JUNE, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1		2								3
Female									1		1
Dead:											
Male				2		1		1			4
Female		1				1					2
Total:											
Male	1		2	2		1		1			7
Female		1				1			1		3
Grand total	1	1	2	2		2		1	1		10

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male				3		1		1			5
Female						1					1
Total				3		2		1			6

Total cases reported within the month in the City of Manila		14
Resident cases	10	
Non-resident cases	4	
Foreign cases	0	
Total deaths within the month in the City of Manila		6
Deaths among resident cases	6	
Deaths among non-resident cases	0	
Reported as:		
Acute dysentery	2	
Amœbic dysentery	0	
Bacillary dysentery	0	
Chronic dysentery	0	
Dysentery	12	
Erroneously reported as dysentery		0
Total		14

No dysentery carrier.

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF JUNE, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		4
Resident cases	3	
Non-resident cases	1	
Foreign cases	0	
Resident cases not confirmed (found negative)	3	
Resident cases confirmed	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases	0	
Deaths among resident cases not confirmed		1

Cholera carriers—None.

DIPHTHERIA REPORTED DURING THE MONTH OF JUNE, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	1	0	1	0	0	0	0	0	0	0	2
Female	1	0	0	0	0	0	0	0	0	0	1
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	1	0	1	0	0	0	0	0	0	0	2
Female	1	0	0	0	0	0	0	0	0	0	1
Grand total	2	0	1	0	0	0	0	0	0	0	3

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		3
Resident cases	3	
Non-resident cases	0	
Resident cases confirmed as diphtheria	0	
Resident cases not confirmed as diphtheria	3	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases (confirmed)	0	
Deaths among non-resident cases	0	

Diphtheria carriers—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Males	Females	Males	Females
Malaria	7	1	1	0
Varioloid	0	0	0	0
Varicella	2	1	0	0
Smallpox	0	0	0	0
Measles	15	8	0	0
Whooping cough	0	0	0	0
Influenza	19	8	2	0
Bubonic plague	0	0	0	0
Beriberi	1	0	1	0
Beriberi, infantile	27	17	27	17
Pulmonary tuberculosis	82	53	61	47
Tuberculosis of all forms	8	6	8	6
Encephalitis lethargica	1	1	0	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Males	Females	Males	Females
Malaria	2	1	1	1
Varioloid	0	0	0	0
Varicella	1	0	0	0
Smallpox	0	0	0	0
Measles	3	1	0	0
Whooping cough	0	0	0	0
Influenza	2	0	0	0
Bubonic plague	0	0	0	0
Beriberi	1	0	1	0
Beriberi, infantile	7	1	7	1
Pulmonary tuberculosis	19	8	14	4
Tuberculosis of all forms	2	0	2	0
Encephalitis lethargica	1	0	1	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JUNE, 1923

Sera and vaccines	On hand June 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	451,000	500,000	951,000	10,000	941,000
Anti-dysenteric serum (ampoules)	20	80	100	93	7
Anti-tetanic serum (units)	....	350,000	350,000	350,000	....
Cholera vaccine (c. c.)	4,975	30,000	34,975	22,160	12,815
Dried vaccine virus (units)	3,650	41,000	44,650	32,150	12,500
Fresh vaccine virus (units)	130,800	200,000	330,800	198,400	132,400
Gonococcus vaccine (ampoules)	....	150	150	150	....
Mixed cholera-typhoid vaccine (c. c.)	8,870	77,170	86,040	75,380	10,660
Normal horse serum (ampoules)	....	40	40	40	....
Typhoid vaccine (c. c.)	8,690	37,280	45,970	37,380	8,590

SMALLPOX VACCINATIONS IN THE CITY OE MANILA DURING THE MONTH OF JUNE, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	1,554	170	21	103	74			273	95
No. 2, Meisic	6,139	186	11	151	160			337	171
No. 4, Sampaloc	1,279	195	8	111	184			306	192
No. 5, Tondo	1,612	411	19	115	112			526	131
No. 6, Paco	1,631	168	7	80	85	3	12	251	104
Total	12,215	1,130	66	560	615	3	12	1,693	693

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros					319	62
No. 2, Meisic					565	680
No. 4, Sampaloc					303	195
No. 5, Tondo	227	500	149	150	166	137
No. 6, Paco					37	222
Epidemiology sections					1,128	570
Total	227	500	149	150	2,518	1,866

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros					200	69			650
No. 2, Meisic					560	625			2,430
No. 4, Sampaloc					335	178			1,011
No. 5, Tondo	210	444	157	147	184	136	1,381	603	623
No. 6, Paco					55	236			550
Epidemiology section					841	635			3,174
Total	210	444	157	147	2,175	1,879	1,381	603	8,438

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see MIXED (TYPHOID AND CHOLERA) VACCINATIONS table.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	1,406	749	974	311	....	....
No. 2, Meisic	1,792	1,968	741	1,083	....	....
No. 4, Sampaloc	883	1,061	568	348	....	....
No. 5, Tondo	87	89	56	42	....	....
No. 6, Paco	103	1,193	47	524	....	....
Epidemiology sections	3,056	1,016	1,637	624	....	....
Total	7,327	6,076	4,023	2,932	....	....

Districts	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	563	481	441	241	....	....	3,199	1,967	....
No. 2, Meisic	1,554	1,885	829	1,074	....	....	7,199	3,727	....
No. 4, Sampaloc	641	1,063	372	392	....	....	3,648	1,680	....
No. 5, Tondo	90	91	83	46	....	....	357	227	....
No. 6, Paco	156	1,012	64	485	....	....	2,464	1,120	....
Epidemiology sections	1,638	932	1,062	665	....	....	6,642	3,988	....
Total	4,642	5,464	2,851	2,903	....	....	23,509	12,709	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923 [1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	2,577	84	29	179	134
Albay	58,720	2,026	783	4,173	1,541
Antique	4,757	501	168	679	278
Bataan	3,421	147	61	703	237
Batanes	917	11	5	43	16
Batangas	60,811	677	98	2,485	516
Bohol	14,325	333	117	1,082	425
Bukidnon	3,445	1	1	6	3
Bulacan	22,443	....	....	....	....
Cagayan	10,098	440	42	814	135
Camarines Norte	1,113	135	40	117	71
Camarines Sur	8,450	439	248	702	366
Capiz	7,460	188	82	202	48
Catanduanes	5,090	329	152	83	136
Cavite	11,203	....	....	....	....
Cebu	36,831	2,560	1,286	2,201	1,209
Cotabato	4,607	44	25	193	182
Culion Leper Colony	43	....	....	....	....
Davao	7,160	....	....	....	....
Ilocos Norte	9,671	626	245	882	738
Ilocos Sur	18,016	652	195	1,429	687
Iloilo	15,067	670	100	991	345
Isabela	3,907	126	126	347	390
Laguna	13,407	919	247	1,653	433
Lanao	5,019	2	3	14	9
La Union	6,798	122	65	192	184
Leyte	40,822	268	107	927	147
Marinduque	4,336	99	51	179	132
Masbate	4,021	21	11	183	71
Mindoro	4,782	227	77	567	272
Misamis	7,001	216	312	196	280
Mountain	4,200	127	80	171	140
Nueva Ecija	5,306	1,305	360	246	255
Nueva Vizcaya	1,957	139	22	289	54
Occidental Negros	5,707	379	179	249	147
Oriental Negros	48,107	185	148	490	495
Palawan	3,515	....	....	....	....
Pampanga	11,153	474	92	721	184
Pangasinan	42,871	2,907	720	2,655	924
Rizal	18,000	430	142	695	313
Romblon	2,665	....	....	....	....
Samar	8,406	197	75	338	188
Sorsogon	4,430	223	83	259	104
Sulu	4,523	....	....	....	....
Surigao	4,574	33	15	538	431
Tarlac	82,243	1,029	112	3,752	611
Tayabas	10,378	242	107	382	122
Zambales	3,141	50	27	81	61
Zamboanga	1,607	55	43	27	44
Total	659,101	19,638	6,881	32,115	13,058

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[1] Compilation of reports received since January. Other reports not received.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincal Form No. 70.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923 [1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [3]		Total [2]	
	Positive	Negative	Positive	Negative
Abra	431	458	1,201	1,102
Albay	9,988	5,997	23,862	11,305
Antique	535	583	2,153	1,388
Bataan	485	194	2,378	1,010
Batanes	435	242	489	263
Batangas	4,349	5,920	20,726	20,269
Bohol	2,116	933	8,067	3,781
Bukidnon	92	154	842	1,223
Bulacan	....	....	12,750	4,385
Cagayan	384	140	7,187	1,545
Camarines Norte	210	317	605	507
Camarines Sur	788	568	4,327	2,502
Capiz	873	393	4,220	1,436
Catanduanes	137	551	1,428	1,412
Cavite	....	....	7,322	3,085
Cebu	1,793	1,523	16,642	9,649
Cotabato	530	1,297	907	1,653
Culion Leper Colony	....	....	18	25
Davao	....	....	2,662	2,021
Ilocos Norte	1,197	1,874	4,278	4,395
Ilocos Sur	1,638	1,051	9,105	4,482
Iloilo	1,094	348	6,545	1,988
Isabela	380	573	1,691	1,733
Laguna	1,596	1,268	6,948	3,666
Lanao	227	64	1,689	1,269
La Union	333	1,174	1,894	3,211
Leyte	3,280	827	21,226	4,574
Marinduque	634	522	1,658	1,212
Masbate	538	685	780	813
Mindoro	722	416	2,030	1,156
Misamis	154	194	2,762	2,111
Mountain	347	340	1,768	1,215
Nueva Ecija	137	226	2,957	1,452
Nueva Vizcaya	353	117	1,507	368
Occidental Negros	231	127	3,144	1,721
Oriental Negros	2,179	2,155	14,765	17,026
Palawan	....	....	2,901	1,103
Pampanga	430	355	5,190	1,909
Pangasinan	5,296	2,276	25,844	9,898
Rizal	932	957	6,851	3,595
Romblon	....	....	814	402
Samar	659	675	3,269	2,107
Sorsogon	235	108	2,146	930
Sulu	....	....	2,527	1,485
Surigao	284	234	2,281	1,262
Tarlac	6,996	6,057	32,632	22,547
Tayabas	1,034	547	6,601	2,030
Zambales	53	323	1,833	1,284
Zamboanga	27	74	642	637
Total	54,132	42,837	296,064	170,142

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[1] Compilation of reports received since January. Other reports not yet received.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincial Form No. 70.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2,065	1,153	46	15	....	....
Batangas	125	153	25	....	....	....
Capiz	72	93	65	48	....	....
Cebu	293	325	213	83	....	....
Isabela	42	39	9	15	....	....
Laguna	41	102	3	....	....	....
Pangasinan	2	45	1	1	....	....
Sorsogon	33	21	31	9	....	....
Tayabas	201	168	....	....	....	....
Total	2,874	2,099	393	171	....	....

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Thrid
Abra	1,641	842	10	18	....	....	5,701	89	....
Batangas	116	108	....	....	....	....	502	25	....
Capiz	83	54	33	19	....	....	302	165	....
Cebu	189	209	136	88	....	....	1,016	520	....
Isabela	17	28	8	11	....	....	126	43	....
Laguna	19	60	....	....	....	....	222	3	....
Pangasinan	5	42	1	1	....	....	94	4	....
Sorsogon	22	31	19	2	....	....	107	61	....
Tayabas	218	123	....	....	....	....	710	....	....
Total	2,310	1,497	207	139	....	....	8,780	910	....

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[1] Compilation of reports received since January.
Other reports not yet received.
NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2	11	2	10	36	97
Albay	13	2	7	....	8	1
Antique	126	94	47	60	8	6
Batangas	33	9	14	....	....	....
Camarines Sur	49	27	5	1	2	....
Catanduanes	77	6	77	6	....	....
Ilocos Sur	1,469	329	877	175	690	364
Isabela	23	40	3	26	....	....
Laguna	238	63	127	42	48	31
Nueva Ecija	8	....	....	....	....	....
Pampanga	595	472	511	378	380	284
Pangasinan	831	719	590	556	487	507
Rizal	69	19	13	1	12	....
Zambales	305	344	275	95	239	74
Total	3,838	2,135	2,548	1,350	1,910	1,364

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[1] Compilation of reports received since January.
Other reports not yet received.
NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	3	11	3	15	23	83	27	30	239
Albay	13	5	10	3	10	3	33	20	22
Antique	53	29	27	11	6	5	302	145	25
Batangas	16	14	......	......	......	......	72	14	......
Camarines Sur	33	36	1	......	......	......	145	7	2
Catanduanes	25	3	25	3	......	......	111	111	......
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Isabela	19	32	12	16	......	......	114	57	......
Laguna	200	,82	119	38	32	26	583	326	137
Nueva Ecija	3	......	5	......	......	......	11	5	......
Pampanga	655	457	512	389	362	291	2,179	1,790	1,317
Pangasinan	721	626	551	472	469	413	2,897	2,169	1,876
Rizal	73	18	27	4	11	......	179	45	23
Zambales	294	307	306	107	238	80	1,250	783	631
Total	3,091	1,996	2,406	1,244	1,637	1,145	11,060	7,548	6,056

[1] Compilation of reports received since January.
Other reports not yet received.
NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	107	44	59	278	......	......
Antique	112	104	143	124	28	19
Bataan	252	28	106	14	......	......
Batanes	68	8	11	2	......	......
Batangas	232	64	113	6	......	......
Bohol	138	16	118	6	......	......
Cagayan	230	6	44	......	......	......
Camarines Norte	96	12	74	3	......	......
Camarines Sur	302	12	9	5	......	......
Cebu	271	50	40	23	......	......
Cotabato	89	38	......	......	......	......
Ilocos Norte	613	363	408	91	......	......
Ilocos Sur	520	78	147	82	14	......
Iloilo	162	154	168	98	......	......
Isabela	108	25	2	......	......	......
Laguna	126	53	32	52	......	......
Lanao	40	15	5	8	......	......
La Union	447	328	273	124	......	......
Leyte	18	2	31	10	......	......
Marinduque	64	......	40	48	......	......
Masbate	218	143	242	89	......	......
Mindoro	178	25	82	15	22	......
Misamis	1	3	......	......	......	......
Nueva Ecija	173	89	92	79	44	23
Nueva Vizcaya	122	119	159	88	15	35
Oriental Negros	47	20	16	40	......	......
Pampanga	477	351	166	79	......	......
Pangasinan	31	16	1	2	......	......
Rizal	1,120	573	599	281	......	......
Surigao	26	......	96	......	......	......
Tarlac	50	165	9	89	......	......
Tayabas	290	104	46	20	......	......
Zamboanga	44	8	......	......	......	......
Total	6,772	3,016	3,331	1,756	123	77

[1] Compilation of reports received since January.
Other reports not yet received.
NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total injections		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	57	64	48	249	......	......	272	634	......
Antique	100	117	101	96	7	31	433	464	85
Bataan	172	50	88	21	......	......	502	229	......
Batanes	55	5	16	3	......	......	136	32	......
Batangas	256	97	124	48	......	......	649	291	......
Bohol	77	32	68	9	......	......	263	201	......
Cagayan	132	1	39	......	......	......	369	83	......
Camarines Norte	72	3	63	5	......	......	183	145	......
Camarines Sur	281	21	13	3	......	......	616	30	......
Cebu	118	46	47	24	......	......	485	134	......
Cotabato	53	32	......	......	......	......	212	......	......
Ilocos Norte	379	286	158	86	......	......	1,641	743	......
Ilocos Sur	466	47	83	61	......	......	1,111	373	14
Iloilo	138	128	117	117	......	......	582	500	......
Isabela	8	22	......	......	......	......	163	2	......
Laguna	56	13	16	55	......	......	248	155	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	391	261	219	110	......	......	1,427	726	......
Leyte	11	3	15	7	......	......	34	63	......
Marinduque	60	1	34	44	......	......	125	166	......
Masbate	71	110	80	93	......	......	542	504	......
Mindoro	78	45	37	32	......	......	326	166	24
Misamis	5	5	......	......	......	......	14	......	......
Nueva Ecija	130	90	69	38	17	8	482	278	92
Nueva Vizcaya	87	105	87	88	3	33	433	422	86
Oriental Negros	9	25	39	46	......	......	101	141	......
Pampanga	562	327	228	86	......	......	1,717	559	......
Pangasinan	25	17	3	4	......	......	89	10	......
Rizal	799	379	516	206	......	......	2,871	1,602	......
Surigao	26	......	51	......	......	......	52	147	......
Tarlac	56	110	8	60	......	......	381	166	......
Tayabas	255	87	50	11	......	......	736	127	......
Zamboanga	18	7	......	......	......	......	77	......	......
Total	5,006	2,537	2,420	1,602	29	72	17,331	9,109	301

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[1] Compilation of reports received since January.
Other reports not yet received.
NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF JUNE, 1923

NO CASE NO DEATH REPORTED DURING THE MONTH

CHOLERA REPORTED FROM THE PROVINCES, FOR THE MONTH OF JUNE, 1923

Provinces and towns	Cases	Deaths
Nueva Vizcaya:		
Solano	[a]4	1
Pangasinan:		
Labrador	1	1
San Fabian	1	1
Tarlac:		
Concepcion	1	1
Total	7	4

[a] Suspects.

OPERATION OF THE SANITARY ENGINEERING OFFICE IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1923

	Health districts—					Total.
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending May, 1923:						
Minor	21	7	35	32	15	110
Sewer	11	39	16	5	4	75
Vacating	1	15	8	2	3	29
Filling	5	2	12	5	5	29
Total	38	63	71	44	27	243
Orders issued during the month:						
Minor	9	7	1	1	1	19
Sewer		1				1
Vacating		5				5
Filling			1			1
Total	9	13	2	1	1	26
Grand total	47	76	73	45	28	269
Orders completed during the month:						
Minor	4	5	18	5	2	34
Sewer	2	1				3
Vacating	1		1			2
Filling	1				1	2
Total	8	6	19	5	3	41
Order cancelled during the month:						
Minor						
Sewer						
Vacating						
Filling						
Total						
Orders pending June, 1923:						
Minor	26	9	18	28	14	95
Sewer	9	39	16	5	4	73
Vacating		20	7	2	3	32
Filling	4	2	13	5	4	28
Total	39	70	54	40	25	228
Strong materials, plans approved:						
New buildings including additions and alterations	21	14	32	32	7	106
Permits for minor building constructions:						
Approved	38	14	31	23	15	121
Disapproved	3	2	2	7	4	18
New buildings completed	9	3	12	17	6	47
Light and mixed material constructions:						
Permits approved			15	9	47	71
Permits disapproved			8	3	17	28
Total number of building projects passed upon	71	33	100	91	96	391
Prosecutions:						
Conviction						
Dismissals						
Amount of fines						
Plumbing permits issued	39	41	25	39	14	158
Plumbing projects completed	19	30	19	39	16	123
Premises connected to the Sanitary Sewer to May, 1923	1,662	2,834	1,059	558	412	6,525
Premises connected during June, 1923	6	6	5	6	2	25
Total	1,668	2,840	1,064	564	414	6,550

Intramuros includes Ermita and Malate.
Meisic includes Sta. Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Sta. Mesa.
Paco includes Pandacan and Sta. Ana.

APR 22 1924

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III JULY, 1923 No. 7

> **I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.**

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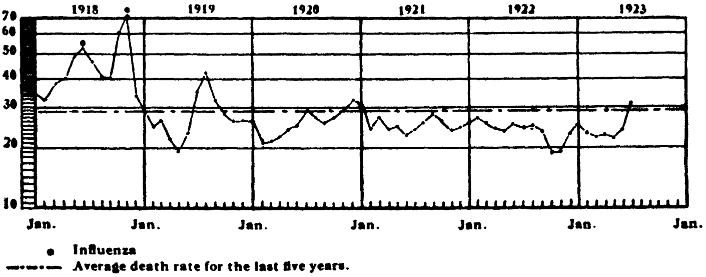

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III JULY, 1923 No. 7

FINDINGS ON MALARIA INVESTIGATIONS IN THE IWAHIG PENAL COLONY

By R. G. PADUA, *Philippine Health Service*

INTRODUCTORY REMARK

In compliance with paragraph 12, Special Order No. 10, dated October 21, 1922, of the Director of Health, the writer had the occasion to investigate, from October 26, 1922, to November 25, 1922, from an epidemiological viewpoint, the malaria situation of the Iwahig Penal Colony.

FIELD SURVEY (THE COLONY)

TOPOGRAPHY AND CLIMATE

The Iwahig Penal Colony is an insular reservation in Palawan Island for prisoners from Bilibid. It covers an area of about 450 square miles and contains 23 stations 6 barrios, and 2 districts (see map, frontispiece). It is traversed by rivers, creeks, and other small streams, the principal one being the Iwahig River. At high tide, the water at or near the mouth of these rivers is salty, while at their source and in their tributaries it is fresh. Besides these streams, there are ditches, pools, and other bodies of stagnant water scattered in certain sections of the Colony. In the Central Colony, however, the street canals, thru better drainage, are empty. In some of these stagnant pools, as in Malamig Station, the anopheles mosquito larvæ have been found.

Mountain ranges also traverse the reservation. Rainfall is not infrequent throughout the year. During the rainy season, floods are not unusual; and during the dry weather, rain falls almost every week.

The abundance of water in the Colony and the fertility of the soil seem to have produced, in large measure, the rich vegetation so admirable everywhere. This rich verdure is due principally to coconuts and rice.

The factors above being the existence, it may not be unusual to observe the astounding swarms of mosquitoes, especially during the months of June, July, August, and September.

POPULATION

The population was almost exclusively Filipino. In fact, there were only three Chinese, one American, and one Borneon. The colonists come from nearly all sectors of the Islands and from different walks of life, but chiefly from the ignorant laboring class. They represent various creeds and degrees of culture. Most of them were, before imprisonment, farmers.

At the time of the investigation, the inhabitants of the Colony numbered as follows:

	Men	Women and children	Total
Colonists	1,334	80	1,414
Officers and employees	24	43	67
Total	1,358	123	1,481

ORGANIZATION

The colonists are grouped into 43 squads. These groups are again classified into about 16 to 20 divisions and subdivisions, the number of squads in each division depending upon the amount of work to be performed, which is mainly along various industrial, mechanical, and agricultural lines. In brief, the Colony is maintained almost exclusively for and by the colonists.

The colonists are quartered with their respective brigades in the different stations, barrios, and districts. Fourteen of such stations, barrios, or districts are located on the banks of the Iwahig River, three on the Balsahan River, four on the Mangahan River, one on the Inagawan River, while five are near the bay.

SANITATION IN GENERAL

As far as general sanitation is concerned, there is but little room for criticism. In the different stations, the efficient Antipolo system, inaccessible to flies, is used. In the Central Colony where the officers and employees are living, the flush-closets are in operation. These discharge their contents into the river.

The river water has not been and should not be recommended for human consumption. The drinking-water comes from a mountain spring, about eight kilometers from the Central Colony. It is assumed, as has been advised, that all the stations, except Malinao, Kamagong, Mainit, and Inagawan which have their own sources from other springs, obtain their water-supply from the Central Colony. In the neighborhood of these water sources, there are no inhabited dwellings. There is no system of water purification, for it is said that the water has been certified by the Bureau of Science to be safe and sound. Moreover, such water-borne diseases as typhoid-fever, cholera, and dysentery are almost unknown in the Colony.

Heretofore, the medical supervision has been in the hands of a Colony Physician. Some time ago, however, the District Health Officer of Palawan acted, during his spare time, as the Physician of the Colony. The outcome of the combination of two such offices, being far apart, has been obviously lamentable. This Colony Physician is charged with the duty of taking care of the hospital and dispensary patients in the four hospitals, viz.: the Iwahig General Hospital, the Contagious Disease Hospital, the Tuberculosis Hospital, and the Hospital for Women, besides making, from time to time, inspections in the different stations, barrios, and districts, to see whether or not the mosquito nets, supplied to every one of the colonists in the brigades, are adequately employed during the nighttime. In this connection, the writer has, upon making rounds at 10 p. m. in some of the brigades, occasionally found mosquito nets lifted with the excuse on the part of the occupants that they felt warm with the nets down.

EPIDEMIOLOGICAL SURVEY

COLLECTION OF MATERIALS

Of the total population (1,481) in the Colony, about 1,392 were thoroughly examined. This number, however, excludes colonists who, at the time of the investigation, were confined in the hospital and employees who did not present themselves for physical examination. Of the 1,391 apparently healthy individuals, 163 were new colonists and the rest old residents. These had been separately recorded for comparison.

In the physical examination, besides the history data, the measurement of the spleen in centimeters, together with its consistency, was accurately made below the costal margin along the mid-clavicular or anterior-axillary line, depending upon the place in which the spleen could be palpated. Similarly, the size of the liver and other concomitant lesions were noted. The hæmoglobin percentage of each individual was estimated, and blood smears from the fingers, thick and thin preparations, were taken and examined to ascertain the type of malaria parasites.

SPLENIC AND PARASITIC INDICES

Of 1,228 old colonists, 599 or 48.78 per cent were found with an enlarged spleen; while of 163 new-comers, only seven or 4.29 per cent had splenic enlargements. This great discrepancy seems significant since the old and the new residents are composed of practically the same element, i. e., prisoners from different parts of the Islands in almost equal proportion. Moreover, on one of the new comers was found harboring the malaria parasite in the peripheral blood; while of the old residents, 15.06 per cent were parasite-positives.

EXTENT OF SPLENIC ENLARGEMENT

Of 562 enlarged spleens among the old colonists, 231 or 41.10 per cent extended anteriorly to the left mid-clavicular lines, while 331 or 58.90 per cent were palpable only on the left anterior-axillary line. These figures seem to agree with the extent of enlargement among the new colonists, for 42.86 per cent palpable on the left mid-clavicular and 57.14 per cent on the anterior-axillary lines. Of the 231 spleens that had extended downward and anteriorly to the left mammary line, 110 or 47.62 per cent were less than six centimeters below the costal margin; while of these palpated on the anterior-axillary line, 275 or 83.08 per cent were of that measurement. From these figures, it may be inferred that the frequency of young splenomegallies in the anterior-axillary line seems to be in inverse ratio to those of the older ones, in the mid-clavicular.

The frequency distribution, in per cent, of the extent of splenic enlargement among those palpated in the mid-clavicular and those in the anterior-axillary lines is, in more detail, shown below:

TABLE I.—*Percentage distribution, among enlarged spleens in the left mammary and left anterior-axillary lines, to each degree of enlargement as measured below the costal margin.*

Measurement below costal margin	Mid-clavicular (Number of examinations, 231)	Anterior axillary (Number of examinations, 331)	Total (Number of examinations, 562)
Barely palpable	14.28	32.93	25.27
1 centimeter	2.60	5.74	4.45
2 centimeters	5.19	10.57	8.36
3 centimeters	9.09	11.78	10.68
4 centimeters	8.23	13.29	11.21
5 centimeters	8.23	8.76	8.54
6–10 centimeters	37.23	15.71	24.56
11–15 centimeters	13.85	1.21	6.40
16 centimeters and over	1.30	0	0.53

In other words, of 562 enlarged spleens among the old residents, 385 or 68.51 per cent did not extend beyond five centimeters below the costal margin; and, while there were 177 cases or 31.49 per cent in which the organ measured six to 16 centimeters below the costal arch, no enlarged spleen among the newcomers was found with the last measurement.

SPLENIC ENLARGEMENT AND MALARIA PARASITE

The relation of splenic enlargement with the plasmodium parasite is now considered. The following two tables show the percentage proportions of parasite-positives and parasite-negatives among those with enlarged spleen and those in which the organ was not palpable; and vice-versa:

TABLE II.—*Percentage of parasite-positives and -negatives among enlarged and non-palpable spleens as compared with the total or average*

Parasite	Spleen		Total or average (Number examined, 1,228)
	Enlarged (Number examined, 599)	Not enlarged (Number examined, 629)	
Positive	14.02	16.06	15.06
Negative	85.98	83.94	84.93

TABLE III.—*Percentage of enlarged and non-palpable spleens among parasite-positives and -negatives as compared with the total or average*

Spleen	Parasite		Total or average (Number examined, 1,228)
	Positive (Number examined, 185)	Negative (Number examined, 1,043)	
Enlarged	45.40	49.38	48.78
Not enlarged	54.59	50.62	51.22

A curious phenomenon is here observed in which the proportion of parasite-positives (16.06 per cent) among those without splenic enlargements is relatively greater than among those with enlarged spleen and the total. On the other hand, the enlarged spleens occurred among 45.40 per cent of the total parasite-positives, an incidence relatively less than that among the parasite-negatives and the average. It is, therefore, inferred that malaria-carriers may not only be from among who had had so numerous attacks of the disease that the spleen had undergone an appreciable amout of hypertrophy, but may also come from those who harbor the plasmodium organism in their peripheral blood without having caused in them an apparent pathological disturbance.

Of the different types of plasmodium parasites the tertian has taken the lead and it was found to exist in 73.68 per cent of the splenomegalies and in 82.73 per cent of those in which the organ could not be palpated, thus:

TABLE IV.—*Percentage distribution of each type or malaria organism among those with and those without splenic enlargements, and among the total*

Parasite	With enlarged spleen (Number examined, 76)	Without enlarged spleen (Number examined, 110)	Total or average (Number examined, 186)
Tertian	73.68	82.73	79.03
Quartan	17.10	8.18	11.83
Aestivo-autumnal	1.32	1.82	1.61
Tertian and quartan	3.95	5.45	4.84
Tertian and æstivo-autumnal	3.95	0.91	2.15
Quartan and æstivo-autumnal	0	0.91	0.54

From these figures it may be deduced that mixed infection with different types may not be of unusual occurrence, for its frequency may occasionally be even more than that of P. falciparum alone.

SPLENIC AND LIVER ENLARGEMENTS, AND THE MALARIA PARASITE

Since almost all of the cases in the present series were adults, the apparent downward enlargement of the liver becomes likewise significant. Of 1,228 old residents, there were found 620 or 50.49 per cent with hepatic enlargement. Of the latter, 424 or 68.39 per cent occurred in association with enlarged spleens, while 196 or 31.61 per cent were found in those without palpable spleens. On the other hand, of the 163 newcomers, 14 or 8.59 per cent had enlarged liver, of whom four or 28.33 per cent were associated with enlarged spleens. And of the 620 cases with liver enlargements, 76 or 12.26 per cent were parasite-positives; while among 608 without apparent hepatic enlargement, 109 or 17.93 per cent were positive for malaria parasite.

The next table shows the incidence of liver enlargements among parasite-positives and -negatives, in the groups of enlarged and non-palpable spleens:

TABLE V.—*Percentage of cases with spleenic and liver enlargements among parasite-positives and parasite-negatives*

Splenic involvement	Liver involvement	Parasite		Total or average (Number examined, 1,228)
		Positive (Number examined, 185)	Negative (Number examined, 1,043)	
Spleen enlarged	Liver enlarged	28.65	35.57	34.53
Do.	Liver not enlarged	16.76	13.81	14.25
Spleen not enlarged	Liver enlarged	12.43	16.59	15.96
Do.	Live not enlarged	42.16	34.04	35.26

In other words, 28.65 per cent of the parasite-positives, less than the average, had both spleen and liver enlarged, while 42.16 per cent of the active malaria carriers were among those that did not exhibit splenic nor hepatic enlargements. Among positive-negatives, on the other hand, the percentage proportion of cases, with both hepatic and splenic enlargements and those without, appeared almost the same; viz., 35.57 per cent and 34.04 per cent, respectively.

However, further statistical results in this investigation show that, of the parasite-positives with splenic enlargements, 63.10 per cent had enlarged liver; while of those without, 22.77 per cent manifested the liver hypertrophy alone, thus:

TABLE VI.—*Percentage of liver involvement among parasite-positives and -negatives in groups of enlarged and non-palpable spleens*

Liver	Spleen enlarged			Spleen not enlarged		
	Parasite—		Total or average (Number examined, 559)	Parasite—		Total or average (Number examined, 629)
	Positive (Number examined, 84)	Negative (Number examined, 515)		Positive (Number examined, 101)	Negative (Number examined, 528)	
Enlarged	63.10	72.04	70.78	22.77	32.76	31.16
Not enlarged	36.90	27.96	29.22	77.23	67.22	68.84

On the other hand, the percentage of cases without hepatic enlargement among parasite-positives, in which the spleen is not palpable, is proportionally more than that in which the spleen is apparently enlarged. The potentiality of splenomegalies as being a possible source of infection may, therefore, seem minimized; but other statistical data at hand likewise appear to indicate that the frequency of cases with enlarged spleens as active plasmodium-carriers seems to be more or less in direct ratio with the extent of hepatic involvement.

The percentage distribution of the different types of plasmodium parasites among the enlarged and non-palpable spleens, in those with and without liver involvement, is shown below:

TABLE VII.—*Percentage occurrence of plasmodium parasites*

Parasite	Spleen enlarged		Spleen not enlarged	
	With liver involvement (Number examined, 45)	Without liver involvement (Number examined, 31)	With liver involvement (Number examined, 22)	Without liver involvement (Number examined, 88)
P. vivax	80.00	64.52	86.36	81.82
P. malaria	13.33	22.58	0	10.28
P. falciparum	0	3.24	0	2.27
P. vivax and P. falciparum	2.22	6.45	0	1.14
P. malaria and P. falciparum	0	0	0	1.14

The next table shows the percentage proportion of parasite-positives and -negatives in soft and hard (enlarged) spleens among those with hepatic involvement and those in which the liver could not be palpated:

TABLE VIII.—*Percentage of parasite-positives and -negatives in groups of soft and hard spleens among cases with and without liver enlargement*

Parasite	Liver enlarged			Liver not enlarged		
	Spleen		Total or average (Number examined, 344)	Spleen		Total or average (Number examined, 214)
	Soft (Number examined, 78)	Hard (Number examined, 266)		Soft (Number examined, 84)	Hard (Number examined, 130)	
Positive	12.82	13.16	13.08	15.48	13.85	14.48
Negative	87.18	86.84	86.92	84.52	86.15	85.52

In other words, altho among those with an enlarged hard spleen associated with liver enlargements 13.16 per cent were parasite-positives, relatively greater than among those with a soft spleen and those in the total, yet 13.85 per cent were found without liver involvement, less in incidence than that with enlarged soft spleen and the average of that group. On the other hand, 15.48 per cent of the enlarged soft spleens not associated with liver enlargement were parasite-positives against 12.82 per cent of the former with liver involvement.

HÆMOGLOBIN PERCENTAGE IN SPLENIC AND LIVER ENLARGEMENTS

The distribution of hæmoglobin percentage, in those with enlarged and with apparently normal spleens among cases with liver enlargements and those in which the latter is not palpable, are seen below:

TABLE IX.—*Percentage proportion of cases under different hæmoglobin estimates*

Hæmoglobin percentage	Old colonists				New-comers			
	With enlarged spleen		Without enlarged spleen		With enlarged spleen		Without enlarged spleen	
	With liver involvement (Number examined, 229)	Without liver involvement (Number examined, 329)	With liver involvement (Numbe examin-r ed, 68)	Without liver involvement (Numbe examined, 593)r	With liver involvement (Number examined, 3)	Withuot liver involvement (Number examined, 5)	With liver involvement (Number examined, 4)	Without liver involvement (Number examined, 151
60 per cent and under	2.18	3.34	1.47	1.01	....	....	....	1.99
65 per cent	2.18	1.22	1.47	1.18	....	....	....	....
70 per cent	6.97	6.38	2.94	4.38	....	....	25.00	3.31
75 per cent	9.17	8.51	11.76	4.22	....	....	....	3.31
80 per cent	15.72	20.67	20.59	20.40	66.67	20.00	....	21.19
85 per cent	28.38	28.27	27.94	29.00	33.33	20.00	50.00	28.48
90 per cent	29.69	27.96	27.94	32.88	....	40.00	25.00	37.09
95 per cent	5.68	3.65	4.41	6.91	....	20.00	....	4.64
100 per cent	0	0	1.47	0	....	....	....	....

On the table, the frequency of enlarged spleen, in the present series, does not seem to follow closely the curve of anæmia. In fact, relatively more cases among both the enlarged and non-palpable spleens, with or without liver involvement, have exhibited hæmoglobin estimates of 85 per cent to 90 per cent. However, statistical results at hand tend to show that, among those with evidence of anæmia, the degree of apparent blood destruction seems to follow, if no other concomitant pathological lesions such as those of the lungs exist, the extent of splenic and liver enlargements.

OTHER ASSOCIATED CONDITIONS

In the present investigation, such other lesions as could be detected clinically were noted. At most, it may be stated that a considerable number of the colonists are affected with some ailment, however mild in character. Skin affection is here referred to. But the principal concomitant lesions that should be considered as partly productive of anæmia are those of the lungs and of the heart. Of the 1,228 old colonists, 76 or 6.19 per cent had either pulmonary or cardiac lesions ,or both. For of these 76 cases, 69 or 90.79 per cent had pulmonary tuberculosis, six or 7.80 per cent had mitral insufficiency, and one or 1.32 per cent had both tuberculosis and mitral insufficiency. Of those affected with pulmonary tuberculosis, 29 or 42.03 per cent occurred among those with enlarged spleen.

The last figure, however, almost corresponds with the percentage proportion of enlarged spleen among those without apparent signs of pulmonary nor cardiac affection; for of 1,102 cases of the latter, 488 or 44.28 per cent showed splenic enlargement.

Other associated conditions not included in the foregoing were skin and surgical diseases numbering 50 altogether, half of which were those with enlarged spleen. The incidence of hookworm has not been taken up in the present study.

Of 163 newcomers, seven or 4.29 per cent had signs of pulmonary tuberculosis, of which one or 14.28 per cent had enlarged spleen. There were no cardiac cases among this group, and the skin and other associated affections were almost negligible.

AGE INCIDENCE

Of 1,228 old residents examined, 47 or 3.83 per cent were children of 10 years and younger. Of this number, 21 or 44.68 per cent had enlarged spleen and 12 or 25.54 per cent were found parasite-positives. Of the 21 cases of splenic enlargement, five or 23.86 per cent showed the malarial parasite in the peripheral blood; while of the 26 cases without splenic enlargement, seven or 26.92 per cent were parasite-positives. Again, of the 17 individuals from 11 to 15 years of age, eight or 47.06 per cent enlarged spleen; of whom two or 25 per cent harbored the plasmodium organism in the peripheral blood.

HISTORY OF MALARIA

There are not enough data to correlate the duration of malarial attacks with the splenic enlargement.

A positive history of malaria could be obtained from 1,054 of the series. Of this number, 741 or 70.30 per cent had contracted the first attack in the provinces, 49 or 4.65 per cent in Bilibid Prison, and 264 or 25.05 per cent in the Iwahig Penal Colony exclusively. Therefore, altho it is possible that some of the febrile cases may represent exacerbations of latent infection acquired before arrival, yet no strong grounds exist to disregard the disease as being native in the Colony. Moreover, the disease developing among imported carriers seems aggravated by local conditions, which are not yet well understood. Some cases had been observed to pursue an acute course with a fatal termination. In fact, cases of severe blackwater fever had been from time to time previously reported; and, altho the writer has not seen a case of this kind during the period of investigation, still his post-mortem findings on a case that was admitted to the hospital in an unconscious state and that died two days after admission, revealed extensive lesions of malaria.

FINDINGS IN THE HOSPITAL

STUDY OF THE RECORDS

In connection with the present malaria investigation, a study of the hospital records of the Colony, from 1916 to and including November, 1922, was made. Based on the diagnosis of the Colony Physician, the average number of cases from all causes a year, during the five years (1916) to 1920, inclusive), was about 1610. Of this number, 49.01 per cent diagnosed as malaria while 4.71 per cent as tuberculosis of all forms. And of the average annual deaths from all causes (about 30 in number), 27.33 per cent were due to malaria while 37.33 per cent to tuberculosis.

In 1921 the number of cases from all causes recorded, was 2,060.

In 1921 the number of cases from all causes recorded, was 2,060. To this number, malaria has supposedly contributed

55.19 per cent, while tuberculosis only 3.35 per cent. Of the 31 deaths from all causes in 1921, two or 6.45 per cent were due to malaria while 17 or 54.84 per cent to tuberculosis.

Up to October 31, 1922, there were 942 cases with 30 deaths from all causes on record. In this number, malaria partook 52.65 per cent of the cases and 60 per cent of the deaths, while tuberculosis 3.93 per cent of the cases and 30 per cent of the deaths.

If admission is made that the diagnoses were fairly reliable, the figures above are undoubtedly shocking.

The percentage distribution by months of the cases and deaths from malaria is shown below:

TABLE X.—*Percentage of cases and deaths from malaria (average of 5 years ending 1920, 1921, and up to the end of October, 1922) by months*

Months	Average from 1916 to 1920, inclusive		1921		1922	
	Cases (Average number, 757)	Deaths (Average number, 9)	Cases (Number, 1,260)	Deaths (Number, 3)	Cases (Number, 505)	Deaths (Number, 19)
January	9.38	4.35	7.86	....	4.16	5.26
February	8.25	....	5.56	....	4.95	....
March	9.65	10.87	8.41	....	5.54	5.26
April	9.41	8.70	6.43	33.33	2.77	....
May	6.90	4.35	7.14	33.33	9.50	5.26
June	7.19	4.35	13.17	....	14.46	5.26
July	8.70	....	14.21	....	13.27	10.58
August	7.59	....	8.49	....	17.03	21.05
September	8.56	....	8.73	....	18.22	36.84
October	8.35	4.35	8.65	33.33	8.82	5.26
November	7.11	....	6.82	....	[a] 1.78	[a] 5.26
December	8.91	63.04	4.52	....	....	....

[a] Up to November 24, 1922.

In 1921 and 1922, the precentage proportion of the cases was relatively more during the rainy weather, *i, e.*, from June to September. On the other hand, in the avearge of five years, the peak of the curve fell in the months of March and April. This lack of correlation as regards the seasonal incidence of the disease may be due to the fact that in the Iwahig Penal Colony the rainfall, as has been stated before, is more or less inconstant. Therefore, if malaria is to be at all reduced to its minimum incidence in the Colony, an active campaign should not be laid aside during the year, and should be prosecuted with more vigor during the rainy season.

REMEDIAL CAMPAIGN AND RESULTS

While the epidemiological survey was going on, the writer, with the assistance of the Colony Physician (Dr. A. H. Aberin) and of the three nurses, took charge of the treatments of the cases in the Iwahig General Hospital, especially those of malaria.

Intensive treatments with intravenous injections of quinine, with or without preventive agents, were given to the actual cases with the happy result that, as may be seen in the foregoing table, the percentage proportion of the disease during the month of November (up to the twenty-fourth), 1922, was reduced to 1.78 per cent, against 682 per cent during the same month in 1921 and 7.11 in the average of five years ending 1920.

A comparison of the daily admissions to the hospital of malaria cases in the month of November during the course of the investigation with those in the same month of 1921, and of the average of five years, is seen below:

TABLE XI.—*Number of malaria cases admitted daily, in the Iwahig General Hospital, during the month of November, in three different periods*

Year	November																														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Average, 1916–1920, inclusive	2.4	1.0	1.4	2.2	2.4	2.0	1.2	1.8	1.4	1.4	0.6	1.2	2.8	2.0	1.4	1.4	2.8	2.0	3.6	2.2	3.2	1.8	1.0	2.8	1.2	1.2	0.8	0.4	1.0	1.2	53.8
1921	10		12	4	1	4										15		21					16						3		86
1922	5												1		1	1					1										[a] 9

NOTE: Blank space in the table indicate no malaria admission.
[a] During and as a result of the remedial campaign along medical lines.

The table above is self-evident and shows what could be done, in part, in a malaria campaign, even by working on the human side of the problem alone.

The average number of malaria cases confined in the hospital, during five years ending 1920, had been about 14 a day and from all causes 48. During 1921, the average number from all causes was 61 a day, 19 of whom were from malaria. On arrival at Iwahig, *i. e.*, on October 26, 1922, there were found 53 regular in-patients, 44 of whom were in Hospital A (Iwahig

General Hospital) and 16 of these were malaria cases besides others, not on record, in the Observation Ward. Intensive treatments were on that day begun and carried on throughout the month of November. This procedure has diminished considerably not only the malaria admissions, but also the number of regular patients in the hospital. In fact, in the last round of the ward the writer made on November 25, 1922, before his departure, there were only eight patients in Hospital A, two of whom were malarial. And at the time this report is being written, a private communication from the Colony Physician, dated December 21, 1923, states that there were on that day only five regular patients in the hospital.

RÉSUMÉ

1. Malaria exists in the Iwahig Penal Colony. There are factors that favor the transmission of the Plasmodium parasites; otherwise, the Reservation in general is fairly sanitary. The colonists are provided with mosquito nets, but it is not definitely known whether or not the latter are used universally during at least the night time.

2. The thorough physical examination, made on 1,392 colonists, shows a prevalence of enlarged spleen. Of 1,228 old residents, 48.78 per cent showed splenic enlargements and 15.06 per cent were found harboring the Plasmodium parasite in the peripheral blood. Of the 163 newcomers, on the other hand, 4.29 per cent had enlarged spleen and none was parasite-positive.

3. A great majority of the enlarged spleen did not extend beyond five centimeters below the costal margin; however, a few cases reached the measurement of 16 centimeters below the costal arch in the mid-clavicular line.

4. While among 599 cases of enlarged spleen, 14.02 per cent were parasite-positives, of 629 cases without splenic enlargements, 16.06 per cent were found to be malaria-carriers. Other statistical results, as shown previously, proved that apparently healthy individuals without traces of post-malarial lesion may be fertile sources of infection.

5. Of 186 parasite-positives, 79.03 per cent were of the tertian type, 11.83 per cent quartan, and 1.61 per cent æstivo-autumnal. Mixed infection occasionally occurred; 4.84 per cent of the parasite-positives were of the combined infection with P. vivax and P. malaria.

6. Liver enlargement was found in about half the number of the colonists. Of 620 enlarged liver cases, 68.39 per cent occurred in association with enlarged speen. Of the newcomers, on the other hand, 8.59 per cent had enlarged liver; of whom 28.33 per cent were in association with splenic enlargement.

7. Of 620 cases of hepatic enlargement, 12.26 per cent were parasite-positives; while of 608 without hepatic evolvement, 17.93 per cent were found positive for malaria. In fact, while of the total parasite-positives, 28.65 per cent occurred in individuals with both splenic and liver enlargements, 42.16 were in those without apparent lesion in both organs. But of the parasite-positives with splenic enlargements, 63.10 per cent had enlarged liver; while of those without, 22.77 per cent should liver enlargement alone.

8. In general, altho malaria causes secondary anæmia, post-malarial lesions, such as spenic and liver enlargements, in apparently healthy individuals it may not so much disturb the hæmoglobin content of the blood. However, the usual concomitant lesions, as pulmonary tuberculosis and others, may become partly instrumental in bringing down the regular curve of hæmoglobin estimate among malarial splenomegalies.

9. Of 47 children, 10 years old and younger, 44.68 per cent had enlarged spleen and 25.54 per cent were parasite-positives. Of the cases of splenic enlargement of this age-group, 23.86 per cent showed the parasite in the peripheral blood; while of those in whom the organ was not palpable, 26.92 per cent were parasite-positives. And among individuals from 11 to 15 years old, 47.06 per cent had enlarged spleen; of whom 25 per cent were found to be malaria-carriers.

10. Of those that gave a positive history of malaria, 25.05 per cent contracted the first attack exclusively in the Iwahig Penal Colony, 4.65 per cent in Bilibid Prison, and 70.30 per cent in the provinces. In fact, the disease has been prevalent, contributing half, or even more, of the total morbidities from all causes. The death-rate from malaria have been likewise increasing in the Colony.

11. Simultaneous with the epidemiological survey, intensive quinine treatments were given to the actual febrile cases in the hospital. Such treatments consisted of a series of intravenous injections, with or without provocative agents, depending upon existing conditions. As a result, the number of malaria admissions to the hospital could be reduced to nine during the month of November, 1922, against 86 during the same month in 1921, and 53.8 in the average of five years ending in 1920.

12. In terms of population, it is here estimated that malaria had been taking away daily, from the Colony, man's power and labor equivalent to 1.25 per cent of its total strength during the five years ending in 1920 and 1.69 per cent in 1921. The average daily decrease of the Colony strength, because of malaria, during November of five years ending in 1920 was 1.09 per cent, and during the same month in 1921 the decrease was 2.21 per cent; but during the same period of time in 1922, the daily loss of the Colony's force was only 0.17 per cent. Therefore, if from a practical point of view, the Colony was losing daily, because of this particular disease, during November of the last six years an average of 1.26 per cent of its actual strength, it was gaining 1.09 points during the period of investigation. In other words, as a result of the intensive campaign, the Colony has been regainning an average of about 86.51 per cent of what man's labor it used to lose during previous years from acute malarial attacks.

RECOMMENDATIONS

It is hereby recommended that, from a purely medical, epidemiological, and public health point of view:

1. The stipulations in the Memorandum for the Colony Physician, as herein transcribed below, be enforced.

IWAHIG PENAL COLONY

November 22, 1922

Memorandum for the Colony Division
Iwahig Penal Colony
Puerto Princesa, Palawan

For the benefit of the present and subsequent malaria investigation in this Colony, it is requested, with the approval of the Director of Health, that henceforth:

1. All newly arrived colonists and their families be physically examined The blank spaces in the attached "Family Record Form" are to be properly filled out, but under the column "Sex," the length of time (years and months) each colonist stayed in Bilibid Prison is to be noted down instead. These records, after the results of blood examination have been entered, shall be forwarded to the Philippine Health Service.

2. Each hospital and dispensary patient in the Iwahig General Hospital, the T. B. Hospital, the Contagious or Isolation Hospital, and the Women's Hospital should have a case record according to attached "Case Record-Form" indicating therein the Division (in case of colonists) he belongs to, the station or barrio he is living, and the length of time he has been residing in the Iwahig Penal Colony. All the blank spaces are to be filled out irrespective of whether or not the case is malaria. Special mention is to be paid if the patient is a newcomer, the idea being to find out later what factors or conditions are involved in the development of the disease after a certain period of residence in Iwahig.

3. The intensive treatment for malaria by a series of intravenous quinine injections, with or without such provocative or preparatory agent as adrenalin hydrocloride of amyl nitrite or the like, is to be continued. For this purpose, any of the recommended soluble forms of quinine may be employed; but for the present campaign, that quinine and urea hydrocloride is preferred, to be given intravenously at a concentration of 3 per cent, the dose being adjusted according to age and existing conditions. The quantity injected each time is to be recorded under the space "Treatment and Observation;" in fact, daily observations should be noted at every febrile exacerbation by giving the time in each instance. Caution should always be taken in the giving of a large amount of quinine intravenously to patients who are extremely anæmic or who present a great number of parasites in every miscroscopic field. Between each injection. the administration of quinine through the mouth should not be entirely abandoned.

4. Before starting the series of quinine injections, a saline purgative should be given to the patients and a blood examination, for hæmoglobin percentage and type of plasmodium parasite, should be made. On the day of discharge, a second hæmoglobin percentage, and in about a month after, a third hæmoglobin estimate, are to be determined, with a view to find out whether or not there has been a gain or loss in the hæmoglobin content of the blood after quinine treatment.

5. All case records thus filled out shall be turned in to the Philippine Health Service after the last hæmoglobin percentage is taken.

6. If possible, all corpses, regardless of whether due to malaria or otherwise, should be subjected to an autopsis. At the time of autopsy, the protocol, as provided for in the attached "Necropsy Record Form," is to be prepared. Tissues from lesioned organs found post-mortem as well as those removed from surgical operations are to be fixed in Zenker's fluid and run thru the different alcohols according to a previous memorandum. These records and tissues, properly labelled, shall be similarly sent by mail to the Philippine Health Service.

7. In short, what we have been doing during this month is to be continued in order to keep reducing, as has been observed, the malarial morbidities and mortalities in this Colony down to the possible minimum; but the records of the work should be turned in to the Philippine Health Service for future epidemiological, clinical, and experimental studies and perhaps for further administratve actions.

Very respectfully yours,

R. G. PADUA
Senior Surgeon, P. H. S.
Malaria Investigator

2. To carry out the work efficiently, the Colony Physician should not disregard the friendly coöperation of the Superintendent of the Colony.

3. The use of the mosquito nets supplied to the colonists shall be made compulsory and stringent measures should be taken to insure their adequate employment at least during the nighttime.

4. Systematic monthly instruction in sanitary matters should be given by the Colony Physician in the monthly mass meetings of the Colonists, and weekly by the Sanitary Squads or the Colony Physician himself in the different brigades. In these series of lectures and demonstrations, more stress should be laid on the nature and evil effects of the disease "Malaria," on its transmission, and on its treatment and various modes of prevention.

5. The Colony Physician shall be instructed to carry out the provisions of the foregoing recommendations and to send from time to time to the Director of Health reports of the work done, not unmindful of the fact that the subsequent decrease of the morbidity and mortality rates in the Colony will be an index of his activity as a Physician and Health Officer.

ADDENDUM

Recommendations, from an experimental viewpoint, along entomological and engineering lines, would be obviously of immense advantage if they could be carried out to a successful end with popular and liberal support.

ACKNOWLEDGMENT

Thanks are due to Superintendent R. Victorio, Dr. and Mrs. A. H. Aberin, Mr. and Mrs. V. Herrera, Assistant Sanitary Inspector S. Talens, and to the Colonists in general for their valuable help and hearty coöperation during the malaria survey in the Colony.

Respectfully submitted.

R. G. PADUA
Senior Surgeon, P. H. S.
In Charge of Malaria Investigation

FIRST COMMENCEMENT OF THE CULION TRAINING SCHOOL FOR NURSING AIDS CULION LEPER COLONY

In July, 1922, the Culion Training School for Nursing Aids was organized for the purpose of bringing the leper assistants working in the wards and clinics of the colony into a definite organization, of giving them regular instruction in the elements of nursing work, in which, practically speaking, they were engaged, and of providing a means of regular promotion based on ability and application. Provisions were also made for improving the conditions of service by providing better food, off-duty periods, separate night shift, and living quarters in dormitories reserved for them.

The school was inaugurated on July 8, 1922, Dr. H. W. Wade, acting chief physician, serving as Chairman of the Faculty, Miss Rufina Agoncillo, chief nurse, as Superintendent, and Mrs. Josefina Runez Casuga, supervising nurse, as Principal. At the beginning of the course, the following staff members undertook to give instruction, with very few changes made during the year: Drs. Catalino Nicolas (Therapeutics), Casimiro B. Lara (Physiology), Jose Rodriguez (Medicine), Eloy V. Pineda (Bacteriology), Jose M. Alonso (Weights and measures), Dalmacio Jugueta (Anatomy), Jose Samson (Minor surgery and emergencies), Miss Agoncillo (Social service), Mrs. Casuga (General nursing), Sister Marguerite (Practical etiquette), Mrs. Jugueta (Housekeeping), Mrs. Viado (Hygiene), Miss Tanda (Practical nursing and nursing ethics), Miss Gutierrez (Infant feeding), Miss Sena (Dietetics), and Mr. Marasigan (Bandaging). Mr. Tiburcio Mangubat, an inmate of the colony, carried on the work in English interestedly and successfully. This teaching work was additional to the regular duties of the staff members, and they deserve much credit for the manner in which they carried it on. Particular mention is due Miss Agoncillo and Mrs. Casuga.

The course covers two and a half years, with probationer, junior, and intermediate periods of one semester each, and a full senior year. The teaching year is divided into two regular semesters of sixteen weeks, with a vacation during the hot season. Only applicants who are physically fit and are able to read and write are admitted as students, though on account of difficulty in filling the full quota of 100, a member of substitutes are employed, some of whom are not fully qualified.

The members of the first group, being of widely varying ability and experience, were tentatively distributed over the various grades. The year was marked by many difficulties, which were to be expected in starting such an enterprise; but as a whole the work was fairly satisfactory under the circumstances. At the end of the year, three of those who had been assigned to the senior class had, by extra efforts in taking certain subjects of the lower years, satisfied the Training School Committee that they were entitled to certificates. Unfortunately, one was taken ill during the last month and could not complete the work; his certificate was awarded conditionally, he to complete the work during the next semester.

On the afternoon of Saturday, April 28, group games between the classes were played, and on Sunday afternoon the formal Commencement Exercises were held. The program was:

GRADUATION PROGRAM

Saturday, April 28, 1923, 2 p. m.

GROUP GAMES

Teams: Seniors and Intermediate Students *vs.* Juniors and Probationers.

I. Indoor Baseball.
II. Potato Relay.
III. Shoe Relay.
IV. Forward and Backward Relay.
V. Eating Crackers Race.
VI. Tailing Donkey.

Refreshments at the Colony Mess Hall.

COMMENCEMENT EXERCISES

Sunday, April 29, 1923, 3.30 p. m.

I.	Selection	Culion Band.
II.	Overture	Culion Orchestra.
III.	Talk	Dr. Eloy V. Pineda. (Member of the Faculty.)
IV.	Song	Female nurses.
V.	Talk	Dr. Jose Avellana Basa. (Chief of the Colony.)
VI.	Instrumental Trio—"Gypsy" by Bohn	Dr. Fernandez and Mr. Paras, violins; Dr. Solis, piano.
VII.	Farewell, 1923 Class	Mr. Mansueto Sahise. (Member, Class of 1924.)
VIII.	Cariñosa Dance	Children from the Negative Children's Home.
IX.	Valedictory Address	Mr. Magno Salazar.
X.	Chorus—"How We Love the Training School for Nursing Aids."	

XI. (*a*) Distribution of Certificates .... Dr. H. W. Wade.
(Chairman of the Faculty.)
(*b*) Distribution of pins .... Miss Rufina Agoncillo.
(Superintendent of the School.)
(*c*) Distribution of prizes .... Mrs. Josefina Runez Casuga.
(Principal of the School.)
XII. Invocation and Benediction .... Rev. F. J. Rello.
(Chaplain, C.L.C.)
XIII. Chorus—"Philippines, My Philippines," "Star Spangled Banner" .... By the Audience.

MEMBERS OF THE GRADUATING CLASS

Magno Salazar .... Bulacan
Celedonio Olivares .... Albay
Leonardo Laporteza .... Manila

The more social numbers of the program were thoroughly enjoyed the students and guests. Six of the nurses, Miss Agoncillo, Mrs. Casuga, and Misses Agdeppa, Magno, Gutierrez, De Leon, and Sena, accompanied by Doctor Solis on the piano, sang "Voices of the Woods" very delightfully. Six little children from the Negative Home danced the *cariñosa* prettily, though somewhat timidly. The beautifully-played trio piece by Doctor Fernandez and Mr. Paras, violins, and Doctor Solis, piano, was greeted very apreciatively. The inmates, may quite music-hungry, sat in rapt attention, and demanded an encore.

On the following morning, Mr. Celedonio Olivares, ill in bed in the hospital, was formally handed his certificate, to be held conditionally, and his prizes for honors.

The ceremony is expected to have a most beneficial effect on the whole atmosphere of the school, particularly as regards the attitude of the students. Already new applications are being received, and certain students who resigned during the year for trivial causes are asking for reinstatement. This educational experiment is proving beneficial to the hospital service and to the students, whose mental life is much broader than can otherwise be possible.

In his address, Doctor Pineda expressed the ideal behind the establishment of the school and the devotion of those persons who have carried on the work. Doctor Pineda spoke thus:

GRADUATES OF THE SCHOOL OF NURSING AIDS, MEMBERS OF THE STAFF, LADIES AND GENTLEMEN:

A year ago we came to this colony imbued with the spirit of doing our bit for its inmates. Mainly, of course, it was because of the treatment of the patients, but we were not content to do only this. Our superiors saw the necessity of many other activities if we were to give to them the maximum benefits. So many things were begun; and, to my mind, foremost in importance was the organization of the Culion Training School for Nursing Aids. Practically all the members of the staff saw the importance and the ultimate benefits to be derived from such an organization; the benefit to the student himself, the benefit to staff in that they could command more expert help, and most of all the benefits for the patients attended in the hospitals. In view of all these, many of the members of the staff went about their task with an enthusiasm that can hardly be paralleled by an educational enterprise of a similar nature.

It was a radical departure from the former ideas conceived of lepers. Formerly, a leper was a person to be pitied, avoided, and to be thrown into a corner, there to await his death, because he carried so loathsome a disease. Today a leper has nothing loathsome in him except the name. We have proved here that he is capable of engaging in gainful occupation as any normal human being and furthermore that he is capable of performing one of the noblest professions on earth, that of helping to heal the sick.

For sometime, a few had their doubts as to the success of the school, and we can not but admit that it was an experiment. Today these ceremonies prove that that school is no longer an experiment. It is a success. It has come to stay. It is now what in business circles would be called a going concern.

The response of the people to this movement has been greater than we at first expected. The number of eager youths who sought admission was most encouraging, and the school from now on promises to the inmate of this colony to use all that is in its power to assure a more expert nursing service than has heretofore been given.

There are members of the staff willing to train these young men and women, who are eager to learn and to fit themselves for a very humanitarian service. While the service before came from the heart, the service today and in the future will come from the heart and the brain as well. The former was good, but the latter is in every respect better.

You, inmates of this colony, who will receive the greatest portion of the benefits to be derived from this school, can do your bit by giving us your moral support and by giving our students and graduates more personal recognition.

Members of the graduatin class of 1923: You have made the school a success. Thru your efforts, the people will realize that the Culion Training School for Nursing Aids is not a joke, that behind it is a real earnest; lofty, purpose. You have finished your theoretical subjects, but you are not to rest content with what you are. You are now to begin work that is more serious and burdened with responsibiliites. Strive to make yourselves better and better. There is no place in this world for a man who stays stationary. You must either go forward or go backward.

Do your best to help the physicians and nurses. Take upon yourselves the responsibility of many things so as to give the physicians more time for more serious work. We are all impelled by the same motives, and the more you coöperate, the better will the results be.

Treat the sick as you would your own brother. Remember that often the action of the medicine you give is in your hands; you can make it work like a healing balsam or like poison. Finally, remember that you are the first graduates of the school to whom the students will look up to as an example to be imitated. You have chosen a task that calls for a high degree of self sacrifice, and in order to help eliminate the suffering among your people, you must give the best and most loyal service. Let there be no flagging in your efforts, and only then will you have earned the gratitude of these people and of mankind.

Doctor Avellana, speaking in Spanish, emphasized the opportunities that are now offered the nursing aids; earnestly advised them to take full advantage of this golden chance, to respect themselves and their positions, to avoid unreasonable self-pride, and to continue to progress along the lines that they are now following.

Mr. Mansueto Sahise, a member of the class of 1924, spoke briefly as follows:

FAREWELL TO CLASS OF 1923

MEMBERS OF THE GRADUATING CLASS.

At last you have reached the longed-for goal. The seeds you have planted and cultivated with tender care have now turned into fruit, ready for you to reap. Oh! what a joy, what a precious reward for your sacrifice and patience. Those of us who are left behind on the road to that goal of success rejoice sincerely in your triumph. It is our greatest hope that you will succeed in the greater responsibility which individually you are to undertake.

In the fields of enterprise which you are now about to enter, we pray and hope that with ready hearts and willing hands you will fight without quarter the various forces of disease that block human progress.

May the future crown you with the laurels of prosperity, so that you may bring honor and fame to our school, so that you may prove yourselves worthy of the blessings endowed generously by our benefactors and kind instructors.

Mr. Magno Salazar, valedictorian of the Graduating Class, said:

SEÑOR JEFE-MÉDICO, SEÑOR DIRECTOR DE ESTA COLONIA, RESPETABLES DOCTORES Y NURSES, COMPAÑEROS:

En muy pocas palabras describiré las innumerables mejoras de Culión, cuyo lema puede llamarse "Ayer, hoy, y mañana."

Si consideramos el ayer de Culión, cuando era la Isla del Dolor, y, recapitulamos a la acción patética del hoy, tendremos que confesar que la Isla del Dolor se ha convertido en la Isla de la Esperanza, cuyos prodigios se deben en gran parte a la acertada administración.

¿Se vislumbra el mañana? Es de todo punto innegable que se ve en lontananza nuestro ansiado mañana. Basta con observar la labor desplegada por el Jefe-Médico; la asistencia constante de los doctores en curarnos, la no despreciable cooperación de las nurses; y la acertadísima implantación del *Culión Training School,* cuyos beneficios tocamos los Nursing Aids. Todo esto, con la valiosa ayuda de las Madres de San Pablo, son la orientación más señalada de nuestro mejoramiento.

La antítesis (y me valgo de una figura retórica) está demostrada científicamente que la lepra es curable.

Compañeros: una palabra más y concluyo. No basta, no, la buena voluntad de los doctores y nurses en enseñarlos; es necesario que nosotros contribuyamos con nuestro grano de arena al monumental edificio, llámase *Culion Training School* que el Doctor Wade, el Comité organizador, Miss Agoncillo, y Mrs. Casuga han levantado.

Doctor Wade spoke for a few minutes only. Though the task assigned, to distribute the certificates, was a simple one, he could not be expected to allow so remarkable an occasion to pass without some remarks. Probably for the first time in history a formal commencement ceremony was being held in a leper colony for inmates who had passed the formal requirements of such a course. A feeling of pride was felt, in the way the members of the staff, under the leadership of Miss Agoncillo and Mrs. Casuga, had carried on the work, and how so many of the students had responded. Long since, the physician had reported clear evidence of improved service in the hospital wards and the clinics. Seventeen years ago, in May, 1906, the first 500 inmates had come to Culion. To receive and care for them there was one doctor, a busy administrator, and four Sisters of Charity. Two of them, Sister Superior Marie Sister Calixte are still here. To aid them they had only the inmates who were less sick. There were not enough graduate nurses available to do such work had they been willing to undertake it. Since then until very recently, there have been far too few doctors and the Sisters bore the main responsibility, with the aid of leper assistants. These were self-sacrificing, earnest, poorly paid, and overworked. They lived in the ward; and if they were too tired to awake when called in the night, men and women suffered and died without attention. Without special instruction, most of them could do little to help, at best. Such had been the background, the tradition, of this service.

The year now past had not been without difficulty. A new organization to be built, plans and preparations to be made suitable to the situation, there had been some mistakes, some misunderstandings, and some disappointments. On the part of the students, the novelty of the situation, the difficulties of carrying on the required work, in many cases failure to appreciate and take advantage of the opportunities, and the lack of tradition of the school had made the year less satisfactory than it might have been. But on the whole, the results had been very encouraging, and the future was bright for better work, and for success on the part of more students.

To the graduates, to whom it was an honor to present the certificates of accomplishment awarded them by the Training

School Committee: They had passed a test of work, were about to enter broader fields. Their responsibility was great. Not only would they be expected to do better work, carry more responsibilities; they were men set apart, they would be watched continually by the undergraduates, their example for good or bad would be a strong influence. A new school lacks traditions. They had been and would continue to be the makers of traditions for this school. They would, assuredly, be good traditions.

Miss Agoncillo presented each nursing aid present with a pin, the insignium of the school. The design had been the winning suggestion by Dr. Jose Samson in a contest held earlier in the year. The badges of bronze circles had been manufactured at very reasonable rates by Brias Roxas & Co., of Manila, and had been paid for from a fund donated by Mr. Ben F. Wright, of the Treaurry Department, on a visit to Culion. They were lent to the students, to be returned on resignation or dismissal, but could be purchased by them at cost. Silver badges had been ordered for the graduates; but, unfortunately, no mail had been received for some time.

Mr. Casuga, before distributing the prizes, said:

> I believe that everybody of us is already acquainted with the purpose of our gathering here this afternoon. Through the inspiration and guidance of the Acting Chief of Treatment, Doctor Wade, with the coöperation of our benevolent Chief of the Colony, Doctor Avellana, and with the help of the members of the Faculty, a year ago the Training School of Nursing Aids was organized. Between struggle and hope, its existence at last reached this first fruit of success. I hope it will mark an important epoch in the history of Culion, it being the first organization of its kind established in the colony, nay, even in the Islands.
>
> Let me not forget to inform you that with the help of some employees, the Graduating Class is leaving to the colony a part of the monument for the statue of our patriot, Dr. Jose Rizal. To their school they are donating a school banner, as a souvenir.
>
> The prizes I am to distribute were contributed for by members of the staff, and are awarded to the members of each class receiving the first and second highest grades. They have been so devoted, faithful to their studies and duties, that even if these prizes are simple, yet their significance is great. May you remain faithful and interested as ever and may the rest of you struggle for the same honors.

HONOR ROLL

Highest honor, first semester

Mansueto Sahise

Senior: 1. Celedonio Olivares. 2. Magno Salazar.
Intermediate: 1. Mansueto Sahise. 2. Petronila Omaña.
Junior: 1. Petronilo Reyes. 2. Eugenio Baylon. 3. Ramon D. Roa.
Probationer: 1. Consuelo Trinidad. 2. Moises Zulampas.

Highest honor, second semester

Pablo Ruiz

Senior: 1. Magno Salazar.

First semester

Senior: 1. Mansueto Sahise. 2. Emiliano Aldanese.

Intemediate: 1. Petronilo Reyes. 2. Simeon Rubilles. (Tie for first place.)

Junior: 1. Pablo Ruiz. 2. Moises Zulampas.

Probationer: 1. Margarito Cadaleria. 2. Fajardo. 3. Fortunato Reyes. (Tie for second place.)

Winners of group games

I. Tailing Donkey—won by Senior and Intermediate Students:
  1. Emiliano Aldanese.
  2. Leonardo Laforteza.
II. Eating Crakers—Juniors and Probationers:
  1. Catalino Rama.
  2. Emilio Tabocal.
III. Shoe Relay—Juniors and Probationers:
  1. Florentino Bitago.
  2. Catalino Rama.
IV. Potato Relay—Juniors and Probationers.
V. Forward and Backward Relay—Juniors and Probationers.
VI. Indoor Baseball—Senior and Intermediate Students.

MISCELLANEOUS

PROPOSED HOSPITAL AT TAYABAS

Vice-Governor Gilmore, Colonel Munson, Acting Chief, Division of Hospitals, Dispensaries and Laboratories Orosa, and Acting Chief, Division of Sanitary Engineering Mañosa made a trip to Lucena, Tayabas, on July 23, to inspect the proposed site for a Provincial Hospital there. They found that the site in front of the provincial court house has all the advantages for hospital construction.

It was found on inquiry that of the ₱82,000 accumulated balance of the health fund of the province of previous years, ₱40,000 has been set aside for hospital construction, and according to the new Hospital Law, an equal amount from the insular fund will be available for the same purpose.

The party also visited the Military Reservation at Los Baños. The impresión was that it is adequate for housing the insane persons in the islands.

NURSING SERVICE AT CAMP STOTSENBERG

Nurses Juana Penales, of the Philippine Health Service, has been detailed at Camp Stotsenberg, following the request by the military authorities of the Camp. This service has been discontinued for a time last year for lack of sufficient number of nurses, and is renewed this year.

Miss Penales will work in the dispensary with a dispensary attendant under the direction of the Camp Surgeon. She will attend several hundred soldiers' families that may need medical care. Her detail is to last two weeks when she will be relieved by other nurses, thus making the service continuous.

DOCTOR MANALANG: PHILIPPINE DELEGATE TO THE PAN-PACIFIC SCIENCE CONGRESS

Dr. Gristobal Manalang, Bacteriologist of the Division of Mindanao and Sulu, Philippine Health Service, has been selected to represent the Philippines at the Pan-Pacific Science Congress which will be held in Melbourne and Sydney, Australia, from August 22 to September 3, 1923. He left on July 22 on the *Yushim Maru.*

Doctor Manalang will read a paper on hookworm work in the Philippines. With his experience of the hookworm campaigns in the municipalities of Argao, Sibonga, Barili, Dumanjug, Moalboal, San Fernando, Naga, Toledo, Balamban, Aluguinsan, and many barrios in the Province of Cebu where over 30,000 case were treated successfully with carbon tetrachloride, his selection to exchange impressions with the medical men in Australia is well merited.

THE PROPERTY DIVISION OF THE P. H. S. ADOPTS A NEW PLAN

Recently a committee composed of Dr. B. Mencias, Chief, Office of Property, Messrs. G. Quintero, Assistant Chief, P. C. Feliciano, clerk of the Property Office, and Mr. S. Sarmiento, of the Office of Records and Finance, was appointed by the District of Health to make an inventory of all the property of the Service.

In the meantime, Doctor Mencias is preparing a plan to introduce change in his office. He has visited the division of the medical supplies of the United States Army, the Bureau of Constabulary, and the Bureau of Supply, and this new plan will be largely based upon the procedure of these offices. This plan will undoubtedly expedite the handling of all property matters, and especially the filling up of orders and requisitions.

THE HEALTHMOBILE AT THE PHILIPPINE GENERAL HOSPITAL

At the request of Miss E. Macaraeg, Principal of the School of Nursing, Philippine General Hospital, the healthmobile of the Philippine Health Service was shown at the new Nurses' Home at Taft Avenue from 7 p. m. to 10 o'clock p. m. on July 28.

The films on the prevention of malaria, the fly danger, unhooking the hookworm, the work of the Red Cross, and The Will of God were shown, and a total of 370 nurses attended. The nurses showed great interest in the practical lessons of sanitation thus demonstrated.

DOCTOR FAJARDO BACK FROM THE SOUTH

Dr. Jacobo Fajardo, Chief, Provincial Sanitation of the Philippine Health Service, returned on July 28, after eight days inspection trip in the south in company with His Excellency, the Governor-General. He visited the municipalities of Borongan, Llorente, Catbalogan, and Calbayog of the Province of Samar. In Borongan, Senior Medical Inspector P. Laygo and the provincial authorities are doing medical relief work among the sufferers of the last typhoon. Doctor Fajardo found that up to July 24 there were registered 159 cases of dysentery with 21 deaths. A total of 60 cases were treated in spite of the refusal of many persons to take treatment.

The municipalities of Dulag, Dagami, Burauen, Tanawan, Palo, Carigara, Alangalang, Jaro, and Tacloban in the Province of Leyte were also inspected. In the mncipalities of Barugo, Carigara, Aalangalang, and Tacloban cases of bacillary dysentery are also registered. The provincial health officers are now undertaking a campaign against this disease, and District Inspector Kierulf who was in Misamis for inspection at the time was wired to proceed immediately to Leyte to direct the campaign. The Director of Health has recently rushed anti-dysenteric serum to this point.

Doctor Fajardo also reports that he found a low percentage of positives among the vaccinated persons especially in the towns along the east coast of Leyte due to length of time it takes the vaccine virus to reach those places where transportation is difficult on the one hand and the lack of proper facilities to keep vaccine fresh on the other. Dry vaccine will henceforth be use and it will be forwarded direct to local health officers thru the interisland boats that ply between this port and the eastern coats.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of July, 1923)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

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[1] Estimated on the basis of last figure published by Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JULY, 1923

Date	Pressure.[1] mean	Temperature						
		In shade[2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1–10	758.34	26.9	33.7	2	22.0	1	29.0	29.2
11–20	56.15	26.6	32.8	11	23.0	11	29.8	30.0
21–31	57.37	26.3	32.6	21	22.4	30	29.4	29.4

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1–10	83.1	86.8	3	77.6	9
11–20	84.2	87.7	13	80.9	15
21–31	85.5	92.6	26	77.8	21

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JULY, 1923—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1–10	E quad.	1,607.5	279.0	1	29.9	4.3	9
11–20	E	1,822.0	345.0	15	26.7	4.1	11
21–31	E quad.	2,936.5	752.0	25	24.7	5.5	21

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1–10	58 55	9 05	9	69.9	6
11–20	35 05	10 00	11	42.8	6
21–31	44 20	8 05	22	163.7	9

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[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	7	4	11	41.35
Filipinos	532	545	1,077	45.71
Spaniards	2	3	5	30.13
Other Europeans	....	4	4	41.85
Chinese	21	21	42	27.71
All others	7	2	9	48.51
Total and average	569	579	1,148	44.51

BIRTHS, BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	105	91	196	5	15	20	216	68.11
No. 2, Meisic	97	109	206	11	3	14	220	24.90
No. 4, Sampaloc	109	109	218	7	12	19	237	56.62
No. 5, Tondo	161	160	321	6	7	13	334	48.84
No. 6, Paco	61	66	127	7	7	14	141	51.05
Total	533	535	1,068	36	36	44	1,148	44.51

Number of births attended by midwife, living, 112; stillbirths, 3.
Number of births attended by family, living, 741; stillbirths, 20.
Number of births attended by physicians, living, 295; stillbirths, 16.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS, IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	....	2	7.52
Filipinos	428	346	774	32.85
Spaniards	1	....	1	6.03
Other Europeans	....	1	1	10.46
Chinese	22	1	23	15.18
All others	1	....	1	5.39
Total and average	454	348	802	31.09

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	116	87
Divorced	....	....
Widowed	30	49
Single	376	248
Condition not stated	3	3
Total	525	387
Grand total	912	

Stillbirths	39
Number of deaths with medical attendance	456
Number of deaths without medical attendance	456

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	51	28	3	....	82
30 days to under 1 year	95	69	16	9	189
1 year to under 2 years	72	47	5	2	126
2 years to 4 years	58	48	5	4	115
5 years to 9 years	9	9	....	1	19
10 years to 14 years	6	3	1	....	10
15 years to 19 years	14	12	2	3	31
20 years to 29 years	34	37	12	7	90
30 years to 39 years	32	15	11	2	60
40 years to 49 years	23	21	4	5	53
50 years to 59 years	30	16	4	3	53
60 years to 69 years	12	13	2	2	29
70 years to 79 years	9	15	2	1	27
80 years to 89 years	6	10	1	....	17
90 years to 99 years	3	3	....	....	6
100 years and over	....	1	....	....	1
Age not stated	....	1	1	....	2
Total	454	348	69	39	910

Two (2) male Filipinos of 35 and 60 years, respectively; permanent residence unknown not included in this table.

DEATHS AND DEATH RATES PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	175	55.18
No. 2, Meisic	128	14.49
No. 4, Sampaloc	109	26.04
No. 5, Tondo	413	60.39
No. 6, Paco	87	31.50
Total	912	35.36

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			8	7					1				16
6. Measles				2									2
10. Influenza				3									3
14. Dysentery			13	7					1				21
17. Leprosy			1										1
19. Other epedemic diseases			1										1
20. Purulent infection septicæmia	1		1	5									7
22. Anthrax			1										1
24. Tetanus			7	5					1				13
27. Beriberi				2									2
27a. Beriberi, infantile			28	26					2				56
28. Tuberculosis of the lungs			67	69	1				8				145
29. Acute miliary tuberculosis			2										2
30. Tuberculous meningitis			7	3									10
31. Abdominal tuberculosis			3	2									5
32. Pott's disease			1										1
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			1	2									3
36. Rickets				2									2
37. Syphilis			3										3
38. Gonococcus infection			1										1
39. Cancer and other malignant tumors of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver			2										2
42. Cancer and other malignant tumors of the female genital organs				4									4
45. Cancer and other malignant tumors of other organs or of organs not specified			1										3
47. Acute articular rheumatism				3									1
48. Chornic rheumatism and gout				1									1
50. Diabetes				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1					1					2
61. Simple meningitis:													
(1) Simple meningitis			12	12									24
(2) Cerebro-spinal meningitis (undefined)			1										1
64. Cerebral hæmorrhage, apoplexy			3	3									6
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			5										5
71. Convulsions of infants (under 5 years of age)			1										1
74. Other diseases of the nervous system			1										1
III. Diseases of the circulatory system													
77. Pericarditis			1										1
78. Acute endocarditis			1										1
79. Organic diseases of the heart			1	6									7
IV. Diseases of the respiratory system													
89. Acute bronchitis			31	32					2				65
90. Chronic bronchitis			11	10									21
91. Broncho-pneumonia			42	32					1	1			76
92. Pneumonia			8	8					1				17
93. Pleurisy			4						1				5
94. Pulmonary congestion, pulmonary apoplexy			1										1
96. Asthma				2									2
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			43	16									59
105. Diarrhœa and enteritis (2 years and over)			13	9									22
107. Intestinal parasites				2									2
108. Appendicitis and typhlitis			1										1
109. Hernias, intestinal obstructions	1		3	1									5
111. Acute yellow atrophy of the liver			1										1

113. Cirrhosis of the liver			5	1					1				7
114. Biliary calculi				1									1
115. Other diseases of the liver			1	1									2
117. Simple peritonitis (nonpuerperal)				1									1
118. Other diseases of the digestive system (cancer and tuberculosis excepted)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			7	5									12
120. Bright's disease			6	8									14
122. Other diseases of the kidneys and annexa			1										1
123. Calculi of the urinary passages			1										1
124. Diseases of the bladder				1									1
129. Uterine tumor (noncancerous)				1									1
130. Other diseases of the uterus				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				3									3
137. Puerperal septicæmia				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			2										2
144. Acute abcess			1										1
IX. Diseases of the bones and of the organs of locomotions													
146. Diseases of the bones (tuberculosis excepted)			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(3) Other congenital malformations											1		1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Prematured birth (not stillborn)			5	2									7
(2) Congenital debility			41	24					6				66
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			3										3
XII. Old age													
154. Senility			10	11									21

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
XIII. Affections caused by external causes													
165b. Other acute poisonings	......	......	......	1	......	......	......	......	......	......	......	......	1
167. Burns (conflagration excepted)	......	......	......	1	......	......	......	......	......	......	......	......	1
169. Accidental drowning	......	......	......	......	......	......	......	......	1	......	......	......	1
172. Traumatism by fall	......	......	1	......	......	......	......	......	......	......	......	......	1
175 Traumatism by other crushing (vehicles, railways, landslides etc.)	......	......	3	......	......	......	......	......	......	......	......	......	3
183. Homicide by cutting or piercing instruments	......	......	1	......	......	......	......	......	......	......	......	......	1
186. Other external violence	......	......	1	......	......	......	......	......	......	......	......	......	1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	......	......	2	4	......	......	......	......	1	......	......	......	7
Total	2	......	428	346	1	......	......	1	22	1	1	......	802
Grand total	2		774		1		1		23		1		802

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2										2
4. Malaria				1									1
9. Diphtheria and croup			2										2
14. Dysentery			1	1					1				3
18. Erysipelas									1				1
20. Purulent infection and septicæmia			2	1									3
23. Rabies			1										1
27a. Beriberi, infantile			6	4									10
28. Tuberculosis of the lungs			7	7					2				16
30. Tuberculous meningitis				1									1
40. Cancer and other malignant tumors of the stomach, liver	1		1										2
45. Cancer and other malignant tumors of other organs or of organs not specified			2	1									3
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis		1											1
61. Simple meningitis:													
(1) Simple meningitis			1	2									3
64. Cerebral hæmorrage, apoplexy			2										2
66. Paralysis without specified cause			1										1
III. Diseases of the circulatory system													
79. Organic diseases of the heart	1		1	2	1								5
IV. Diseases of the respiratory system													
89. Acute bronchitis			4	1									5
90. Chronic bronchitis			1	1									2
91. Broncho-pneumonia			4	3									7
92. Pneumonia			4	2									6
98. Other diseases of the respiratory system (tuberculosis excepted)				1									1
V. Diseases of the digestive system													
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)			4										4
105. Diarrhœa and enteritis (2 years and over)			2	2									4
108. Appendicitis and typhlitis				1									1
113. Cirrhosis of the liver			1										1
117. Simple peritonitis (nonpuerperal)			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VI. Nonvenereal diseases of the genito-urinary system and annexa													
120. Bright's diseases				1					1				2
123. Calculi of the urinary passages			2										2
VII. The puerperal state													
136. Other accidents of labor				1									1
138. Puerperal albuminuria and convulsions				2									2
VIII. Diseases of the skin and the cellular tissue													
142. Gangrene				1									1
143. Furuncle			1										1
144. Acute abcess			1										1
IX. Diseases of the early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility			3										3
XII. Old age													
154. Senility			1	1									2
XIII. Affections caused by external causes													
160. Suicide by cutting or piercing instruments			1										1
183. Homicide by cutting or piercing instruments			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1										1
Total	2	1	61	38	1				5				108
Grand total	3		99		1				5				108

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
14. Dysentery					1	1
20. Purulent infection and septicæmia					1	1
24. Tetanus				9		9
27a. Beriberi, infantile				3	63	66
35. Disseminated tuberculosis					1	1
36. Rickets				1		1
37. Syphilis					2	2
61. Simple meningitis:						
(1). Simple meningitis					6	6
77. Pericarditis					1	1
89. Acute bronchitis					37	37
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					30	30
92. Pneumonia				1	3	4
104. Diarrhœa and enteritis					28	28
119. Acute nephritis					3	3
144. Acute abscess					1	1
150. Congenital malformations (stillbirths not included):						
(3). Other congenital malformations				1		1
151. Congenital debility, icterus, and sclerema:						
(1). Premature births (not stillborn)	7					7
(2). Congenital debility	15	4	1	20	29	69
152. Other causes peculiar to early infancy:						
(2). Other causes peculiar to early infancy	1	1			1	3
189. Causes of death not specified or ill defined				1	1	2
Total	23	5	1	36	206	271

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,833
Number of rats caught by spring traps	3,337
Number of cage wire traps set	730
Number of rats caught by cage wire traps	2
Number and kind of baits (coconuts)	22,841
Number of poison portions placed	25,632
Number of rats found poisoned	164
Number of rats killed by clubs and other weapons	2,100
Number of rats found dead from other causes	911
Total number of rats otherwise caught, found dead or killed	6,514
Total number of rats sent to the laboratory for examination	6,514
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JULY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	3	0	11	0	10	0	10	0	5	0	39
Female	3	0	3	0	6	0	2	0	2	0	16
Dead:											
Male	2	0	4	0	0	0	0	0	3	0	9
Female	2	0	2	1	0	0	2	0	0	0	7
Total:											
Male	5	0	15	0	10	0	10	0	8	0	48
Female	5	0	5	1	6	0	4	0	2	0	23
Grand total	10	0	20	1	16	0	14	0	10	0	71

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	3	0	0	0	1	0	4	0	9
Female	2	0	3	1	0	0	1	0	0	0	7
Total	3	0	6	1	0	0	2	0	4	0	16

Total cases reported within the month in the City of Manila		104
Resident cases	76	
Non-resident cases	27	
Foreign cases	1	
Total deaths reported within the month in the City of Manila		18
Deaths among resident cases	16	
Deaths among non-resident cases	2	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		100
Autopsy	0	
Blood culture	0	
Clinically positive	92	
Fæces	2	
Widal reaction	6	
Confirmed cases as paratyphoid		0
Cases not confirmed		4

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF JULY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Homo	Hospital	Home	Hospital	Home	
Living:											
Male..........	3	0	1	0	1	0	0	0	1	0	6
Female........	2	0	0	0	1	0	2	0	0	0	5
Dead:											
Male..........	0	0	0	3	0	2	2	4	0	2	13
Female........	0	0	0	0	0	0	1	3	1	2	7
Total:											
Male..........	3	0	1	3	1	2	2	4	1	2	19
Female........	2	0	0	0	1	0	3	3	1	2	12
Grand total..	5	0	1	3	2	2	5	7	2	4	31

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male..............	0	1	0	3	0	2	2	4	0	2	14
Female............	0	0	0	0	0	0	0	4	1	2	7
Total.......	0	1	0	3	0	2	2	8	1	4	21

Total cases reported within the month in the City of Manila		42
Resident cases	34	
Non-resident cases	8	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		24
Deaths among resident cases	21	
Deaths among non-resident cases	8	
Deaths among foreign cases	0	
Reportetd as:		
Acute dysentery	8	
Amœbic dysentery	2	
Bacillary dysentery	7	
Chronic dysentery	2	
Dysentery	28	
Erroneously reported as dysentery		0
Total		42

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF JULY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		7
Non-resident cases	2	
Foreign cases	0	
Resident cases	5	
Resident cases not confirmed as cholera (found Neg.)	5	
Resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		1
Deaths among non-residentt cases	1	
Deaths among foreign cases	0	
Deaths among residentt cases (confirmed as cholera)	0	
Deaths among resident cases (not confirmed as cholera)	0	

Cholera carriers—None.

DIPHTHERIA REPORTED DURING THE MONTH OF JULY, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	1	0	0	0	3	0	0	0	4
Female	2	0	1	0	0	0	1	0	0	0	4
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	1	0	0	0	3	0	0	0	4
Female	2	0	1	0	0	0	1	0	0	0	4
Grand total	2	0	2	0	0	0	4	0	0	0	8

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		15
Resident cases	8	
Non-resident cases	7	
Resident cases confirmed as diphtheria	0	
Resident cases not confirmed as diphtheria	8	
Total deaths reported within the month in the City of Manila		2
Deaths among resident cases (confirmed)	0	
Deaths among non-resident cases	2	

Diphtheria carrier, 1.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	0	0	0
Varioloid	0	0	0	0
Varicella	2	3	0	0
Smallpox	0	0	0	0
Measles	6	11	0	2
Whooping cough	0	0	0	0
Influenza	19	13	0	3
Bubonic plague	0	0	0	0
Beriberi	1	2	0	2
Beriberi, infantile	31	26	30	26
Pulmonary tuberculosis	107	94	78	69
Tuberculosis of all forms	12	8	12	8
Encephalitis lethargica	2	1	1	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	1	2	0	1
Varioloid	0	0	0	0
Varicella	1	0	0	0
Smallpox	0	0	0	0
Measles	1	1	0	0
Whooping cough	0	0	0	0
Influenza	3	1	0	0
Bubonic plague	0	0	0	0
Beriberi	0	0	0	0
Beriberi, infantile	6	4	6	4
Pulmonary tuberculosis	[1]14	14	[2]11	7
Tuberculosis of all forms	0	1	0	1
Encephalitis lethargica	0	0	0	0

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[1] One (1) permanent residence unknown included.

[2] Two (2 permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JULY, 1923

Sera and vaccines	On hand July 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	941,000	....	941,000	350,000	591,000
Anti-dysenteric serum (ampoules)	7	360	367	309	58
Anti-tetanic serum (units)	....	504,000	504,000	4,000	500,000
Cholera vaccine (c. c.)	12,815	27,000	39,815	31,020	8,795
Dried vaccine virus (units)	12,500	42,000	54,500	49,750	4,750
Fresh vaccine virus (units)	132,400	200,000	332,400	197,500	134,900
Gonococcus vaccine (ampoules)	....	20	20	20	....
Mixed cholera-typhoid vaccine (c. c.)	10,660	70,260	80,920	79,660	1,260
Normal horse serum (ampoules)	....	21	21	21	....
Typhoid vaccine (c. c.)	8,590	31,920	40,510	35,320	5,190

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 to 4 years		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	794	219	18	82	84			301	102
No. 2, Meisic	1,006	194	10	194	126			388	136
No. 4, Sampaloc	666	246	8	136	175			382	183
No. 5, Tondo	1,104	372	9	124	102			496	111
No. 6, Paco	458	191	18	113	162			304	180
Total	4,028	1,222	63	649	649			1,871	712

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA, FOR THE MONTH OF JULY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros					1,095	765
No. 2, Meisic					662	2,519
No. 4, Sampaloc					480	615
No. 5, Tondo	709	1,843	519	2,399	165	489
No. 6, Paco					48	47
Epidemiology Section					1,478	283
Total	709	1,843	519	2,399	3,878	4,718

Districts	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros					578	911			3,344
No. 2, Meisic					623	2,489			6,298
No. 4, Sampaloc					219	500			1,764
No. 5, Tondo	561	2,954	557	2,259	301	856	6,067	5,734	1,811
No. 6, Paco					49	66			210
Epidemiology Section					641	352			2,754
Total	561	2,954	557	2,259	2,406	5,174	6,067	5,734	16,176

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see table of MIXED (TYPHOID AND CHOLERA) VACCINATION table.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	449	954	762	1,205	....	....
No. 2, Meisic	1,867	1,964	1,222	2,113	....	....
No. 4, Sampaloc	703	1,785	466	1,330	....	....
No. 5, Tondo	126	102	41	8	....	....
No. 6, Paco	213	104	96	53	....	....
Epidemiology Section	2,274	295	1,773	275	....	....
Total	5,632	5,204	4,360	4,984	....	....

Districts	Number of persons vaccinated						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	249	976	312	859	....	....	2,628	3,138	....
No. 2, Meisic	1,710	2,051	1,081	2,143	....	....	7,592	6,559	....
No. 4, Sampaloc	301	1,167	182	992	....	....	3,956	2,970	....
No. 5, Tondo	246	194	42	7	....	....	668	98	....
No. 6, Paco	124	93	79	67	....	....	534	295	....
Epidemiology section	782	361	678	311	....	....	3,712	3,037	....
Total	3,412	4,842	2,374	4,379	....	....	19,090	16,097	....

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age.

Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923 [1]

Provinces.	Total vaccinations [2]	Instructions of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	2,577	121	48	223	181
Agusan	740	...	...	...	...
Albay	71,571	3,129	1,094	6,256	2,226
Antique	7,046	1,049	309	1,314	636
Bataan	4,196	258	97	1,140	431
Batanes	1,081	17	8	77	29
Batangas	76,355	1,409	139	3,682	968
Bohol	17,140	616	220	2,068	793
Bukidnon	3,714	1	1	6	3
Bulacan	21,614	656	80	856	249
Cagayan	11,909	756	53	1,367	220
Camarines Norte	1,360	303	122	184	105
Camarines Sur	10,028	585	318	976	457
Capiz	7,532	340	109	439	105
Catanduanes	5,530	660	245	354	851
Cavite	11,277	...	...	...	...
Cebu	53,909	5,130	2,392	4,127	2,443
Cotabato	8,396	68	58	294	356
Culion Leper Colony	43	...	...	...	...
Davao	8,599	...	...	...	...
Ilocos Norte	12,293	626	245	882	738
Ilocos Sur	18,016	1,540	372	3,384	1,539
Iloilo	25,060	893	158	1,180	888
Isabela	3,907	172	136	652	521
Laguna	19,601	1,194	287	2,298	580
Lanao	5,549	88	38	337	212
La Union	7,920	185	111	304	283
Leyte	51,525	268	107	927	147
Marinduque	4,966	172	87	433	288
Masbate	6,308	26	13	200	97
Mindoro	7,069	336	193	793	497
Misamis	10,209	568	552	599	596
Mountain Province	4,200	127	80	171	140
Nueva Ecija	9,119	1,609	461	374	388
Nueva Vizcaya	1,957	200	34	380	69
Occidental Negros	12,414	604	283	542	356
Oriental Negros	48,107	526	712	1,819	2,782
Palawan	3,515	...	...	...	...
Pampanga	13,979	1,161	212	1,521	438
Pangasinan	42,871	6,383	1,567	6,440	2,231
Rizal	18,537	1,106	208	1,552	463
Romblon	2,665	...	...	...	...
Samar	8,406	470	163	960	476
Sorsogon	4,430	743	250	710	288
Sulu	5,677	250	68	683	324
Surigao	5,120	159	97	1,188	686
Tarlac	93,621	1,029	112	3,752	611
Tayabas	12,525	1,207	388	1,320	492
Zambales	5,141	296	129	486	177
Zamboanga	2,939	253	179	223	194
Total	792,263	37,289	12,535	57,473	25,554

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[1] Compilation of reports received since January up to July 31.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923[1]—Continued

Provinces	Instructions of persons vaccinated			
	5 years and over[3]		Total[2]	
	Positive	Negative	Positive	Negative
Abra	596	656	1,201	1,102
Agusan			154	70
Albay	17,490	7,985	30,210	15,184
Antique	1,027	1,181	3,390	2,126
Bataan	692	326	2,877	1,282
Batanes	491	254	585	291
Batangas	7,232	11,343	24,585	24,332
Bohol	3,587	1,906	9,721	4,545
Bukidnon	92	154	889	1,330
Bulacan	3,446	1,446	11,937	4,191
Cagayan	664	207	8,521	1,827
Camarines Norte	264	360	751	587
Camarines Sur	1,266	879	5,181	2,915
Capiz	1,408	748	4,221	1,716
Catanduanes	209	606	1,688	1,616
Cavite			7,353	3,140
Cebu	3,404	2,809	23,055	14,314
Cotabato	743	1,715	1,290	2,271
Culion Leper Colony			18	25
Davao			3,919	2,145
Ilocos Norte	1,197	1,874	5,505	5,574
Ilocos Sur	4,291	2,591	9,105	4,482
Iloilo	1,305	403	10,782	3,456
Isabela	634	802	1,691	1,733
Laguna	2,024	1,697	9,639	6,065
Lanao	685	574	2,027	1,291
La Union	423	1,434	2,078	3,528
Leyte	3,280	827	26,217	6,572
Marinduque	1,220	959	2,286	1,765
Masbate	565	729	958	974
Mindoro	981	647	2,789	1,930
Misamis	485	421	4,241	3,110
Mountain Province	347	340	1,768	1,215
Nueva Ecija	211	309	4,526	3,133
Nueva Vizcaya	458	157	1,507	368
Occidental Negros	739	523	6,730	3,745
Oriental Negros	5,191	8,312	14,765	17,026
Palawan			2,901	1,103
Pampanga	935	696	6,526	2,489
Pangasinan	10,225	5,162	25,844	9,898
Rizal	1,391	1,242	7,130	3,770
Romblon			814	402
Samar	1,328	1,181	3,269	2,107
Sorsogon	693	392	2,146	930
Sulu	667	427	3,160	1,719
Surigao	1,186	721	1,533	1,494
Tarlac	6,996	6,057	40,654	27,742
Tayabas	2,489	1,207	7,622	2,548
Zambales	1,023	1,188	2,580	2,466
Zamboanga	155	198	1,204	1,190
Total	93,735	73,745	353,543	208,834

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[1] Compilation of reports received since January up to July 31.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincial Form No. 70.

Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	4,016	2,302	51	15		
Batangas	619	621	25			
Bulacan	73	121				
Capiz	265	200	110	68		
Cebu	305	339	220	86		
Isabela	42	39	9	15		
Laguna	59	116	3			
Misamis	34	81				
Oriental Negros	53	55	44	72		
Pampanga	4	2				
Pangasinan	105	73	5	3		
Rizal	4	1				
Sorsogon	528	303	185	129		
Tayabas	408	318	21	2		
Zambales	171	73	149	64		
Total	6,686	4,644	822	454		

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	3,717	1,861	121	88			11,896	275	
Batangas	824	530					2,594	25	
Bulacan	68	45					307		
Capiz	182	142	45	32			789	255	
Cebu	189	209	141	99			1,042	546	
Isabela	17	28	8	11			126	43	
Laguna	36	69					280	3	
Misamis	30	29					174		
Oriental Negros	63	42	47	64			213	227	
Pampanga	5	1					12		
Pangasinan	54	70	5	2			302	15	
Rizal	4	1					10		
Sorsogon	390	206	119	76			1,427	509	
Tayabas	319	282	8	13			1,327	44	
Zambales	134	69	115	62			447	390	
Total	6,032	3,584	609	447			20,946	2,332	

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[1] Compilation of reports received since January.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	2	11	2	10	36	97
Albay	57	22	37	7	13	3
Antique	139	110	87	118	17	6
Batangas	51	15	30	6	......	......
Bulacan	290	172	162	83	125	43
Camarines Sur	222	68	35	21	8	3
Catanduanes	178	44	123	31	......	......
Cebu	72	52	38	......	......	......
Ilocos Sur	1,469	329	877	175	690	364
Isabela	23	40	3	26	......	......
Laguna	368	88	194	60	86	45
Nueva Ecija	8	......	......	......	......	......
Oriental Negros	11	......	44	......	11	......
Pampanga	1,160	917	889	581	444	318
Pangasinan	1,471	1,173	1,057	810	850	675
Rizal	283	34	176	14	75	7
Tayabas	108	31	43	......	......	......
Zambales	1,182	1,132	1,106	889	961	812
Total	7,094	4,238	4,903	2,831	3,316	2,373

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	3	11	3	15	23	83	27	30	239
Albay	71	19	45	15	19	8	169	104	43
Antique	61	46	74	37	13	5	356	316	41
Batangas	69	30	22	5	......	......	165	63	......
Bulacan	315	170	177	86	135	43	947	508	346
Camarines Sur	152	91	43	14	7	4	533	113	22
Catanduanes	67	47	47	19	......	......	336	220	......
Cebu	57	35	32	......	......	......	216	70	......
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Isabela	19	32	12	16	......	......	114	57	......
Laguna	261	112	176	62	62	39	829	492	232
Nueva Ecija	3	......	5	......	......	......	11	5	......
Oriental Negros	15	7	15	7	15	7	33	66	33
Pampanga	1,178	858	875	578	419	320	4,113	2,923	1,501
Pangasinan	1,126	1,064	863	736	734	607	4,834	3,466	2,866
Rizal	227	48	145	22	51	6	592	357	139
Tayabas	78	28	25	1	......	......	245	69	......
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	5,823	3,986	4,471	2,615	2,972	2,127	21,141	14,820	10,788

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[1] Compilation of reports received since January.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	107	44	63	287	....	....
Antique	263	193	217	168	28	19
Bataan	276	31	118	16	....	....
Batanes	68	8	11	2	....	....
Batangas	467	242	242	72	....	....
Bohol	183	25	130	6	....	....
Bulacan	14	2	14	2	14	2
Cagayan	431	516	167	20	....	....
Camarines Norte	240	43	119	17	....	....
Camarines Sur	315	18	12	8	....	....
Cebu	340	63	40	23	....	....
Cotabato	173	85	....	....	....	....
Davao	258	10	246	10	....	....
Ilocos Norte	613	363	408	91	....	....
Ilocos Sur	1,273	331	253	136	91	73
Iloilo	499	391	603	355	....	....
Isabela	108	25	2	....	....	....
Laguna	126	53	32	52	....	....
Lanao	40	15	5	8	....	....
La Union	603	396	329	135	....	....
Leyte	18	2	31	10	....	....
Marinduque	270	182	213	226	....	....
Masbate	232	147	253	91	....	....
Mindoro	202	74	83	15	22	....
Misamis	326	149	268	193	....	....
Nueva Ecija	325	153	260	128	115	23
Nueva Vizcaya	164	124	298	102	15	35
Oriental Negros	90	31	24	40	....	....
Pampanga	749	508	331	170	....	....
Pangasinan	195	97	118	68	....	....
Rizal	1,340	689	848	529	....	....
Sulu	113	254	18	85	....	....
Surigao	26	....	96	....	....	....
Tarlac	314	290	150	144	....	....
Tayabas	813	313	155	45	....	....
Zamboanga	44	8	....	....	....	....
Total	11,618	5,875	6,157	3,254	285	152

[1] Compilation of reports received since January.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED TYPHOID AND CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]—Continued

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First.	Second.	Third.
Abra	57	64	51	256	......	......	272	657	......
Antique	264	198	139	134	7	31	918	658	85
Bataan	215	54	101	25	......	......	576	260	......
Batanes	55	5	16	3	......	......	136	32	......
Batangas	522	246	278	112	......	......	1,477	699	......
Bohol	81	41	68	9	......	......	330	213	......
Bulacan	7	......	7	......	7	......	23	23	23
Cagayan	204	361	158	102	......	......	1,512	447	......
Camarines Norte	128	18	102	17	......	......	424	255	......
Camarines Sur	308	37	20	8	......	......	678	48	......
Cebu	144	50	47	24	......	......	597	134	......
Cotabato	103	65	......	......	......	......	426	......	......
Davao	9	7	9	7	......	......	284	272	......
Ilocos Norte	379	286	158	86	......	......	1,641	743	......
Ilocos Sur	849	288	234	128	82	91	2,741	751	337
Iloilo	404	308	418	323	......	......	1,597	1,699	......
Isabela	8	22	......	......	......	......	163	2	......
Laguna	56	13	16	55	......	......	248	155	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	543	319	285	129	......	......	1,861	878	......
Leyte	11	3	15	7	......	......	34	63	......
Marinduque	153	164	217	213	......	......	769	869	......
Masbate	72	110	85	94	......	......	561	523	......
Mindoro	98	69	37	32	2	......	443	167	24
Misamis	155	89	118	90	......	......	719	669	......
Nueva Ecija	248	144	191	96	70	8	870	675	216
Nueva Vizcaya	115	115	128	102	3	33	518	625	86
Oriental Negros	61	31	43	46	......	......	213	153	......
Pampanga	920	536	460	223	......	......	2,713	1,184	......
Pangasinan	166	132	104	95	......	......	590	385	......
Rizal	986	446	751	352	......	......	3,461	2,480	......
Sulu	87	170	29	75	......	......	624	207	......
Surigao	26	......	51	......	......	......	52	147	......
Tarlac	237	262	88	118	......	......	1,103	500	......
Tayabas	566	237	109	23	......	......	1,929	332	......
Zamboanga	18	7	......	......	......	......	77	......	......
Total	8,253	4,893	4,526	2,984	171	163	30,639	16,921	771

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[1] Compilation of reports received since January.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF JULY, 1923

No case; no death reported during the month.

CHOLERA REPORTED FROM THE PROVINCES RECEIVED DURING THE MONTH OF JULY, 1923

Provinces and towns	Cases	Deaths
Bulacan:		
Bigaa	1	0
Bukawe	1	0
Davao:		
Agdao	1	0
Laguna:		
Calamba	1	0
Los Baños	1	1
San Pablo	1	0
Occidental Negros:		
Bacolod	1	1
Nueva Vizcaya:		
Solano	4	1
Pangasinan:		
Santa Barbara	1	1
Tayog	1	0
Total	[1]13	[1]4

[1] All suspects.

OPERATION OF THE SANITARY ENGINEERING DIVISION IN THE CITY OF MANILA, DURING THE MONTH OF JULY, 1923

	Health districts					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending, June, 1923:						
Minor	26	9	18	28	14	95
Sewer	9	39	16	5	4	73
Vacating	....	20	7	2	3	32
Filling	4	2	13	5	4	28
Total	39	70	54	40	25	228
Orders issued during the month:						
Minor	6	7	1	1	2	17
Sewer	1	2	....	....	1	4
Vacating	....	1	....	....	....	1
Filling	1	....	....	....	....	1
Total	8	10	1	1	3	23
Grand total	47	80	55	41	28	251
Orders completed during the month:						
Minor	5	8	2	....	1	16
Sewer	....	3	1	....	....	4
Vacating	....	8	....	....	1	9
Filling	....	....	....	....	....	....
Total	5	19	3	....	2	29
Orders cancelled during the month:						
Minor	....	....	1	....	....	1
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	....	1	....	....	1
Orders pending, July, 1923:						
Minor	27	8	16	29	15	95
Sewer	10	38	15	5	5	73
Vacating	....	13	7	2	2	24
Filling	5	2	13	5	4	29
Total	42	61	51	41	26	221
Strong material plans approved:						
New buildings including additions and alterations	23	12	18	25	8	86
Permits for minor building constructions:						
Approved	19	15	17	24	28	103
Disapproved	4	2	7	4	3	20
New buildings completed	8	3	8	23	6	48
Light and mixed material construction:						
Permits approved	....	....	27	12	26	65
Permits disapproved	....	....	8	10	15	33
Total number of building projects passed upon	54	32	85	98	86	355
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	32	32	18	32	6	120
Plumbing projects completed	40	26	23	40	15	144
Premises connected to the sanitary sewer to June, 1923	1,668	2,840	1,064	564	414	6,550
Premises connected during the month of July, 1923	12	6	6	8	4	36
Total	1,680	2,846	1,070	572	418	6,586

Intramuros includes Ermita and Malate; Meisic includes Santa Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Santa Mesa; Paco includes Pandacan and Santa Ana.

APR 22 1924

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III AUGUST, 1923 No. 8

I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—**PASTEUR.**

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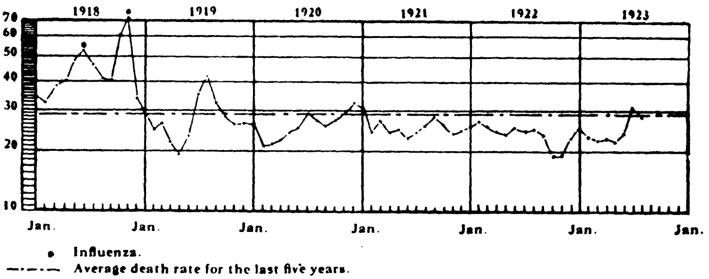

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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HOOKWORM CLINIC IN BULACAN

By BIENVENIDO CARO, M. D.

From the Division of Communicable Diseases

The first hookworm clinic was established in the town of Polo, Bulacan, with the primary object of having the presidents of the different sanitary divisions of the province familiarize themselves with the way a campaign against hookworm is conducted, so that in the future they may undertake similar campaigns in their own jurisdictions. The town of Polo was selected because of its nearness to Manila and because this town has never before been the field for any campaign whatsoever. After the clinic had been installed in the central school, tin cans, serving as receptacles for stool specimens, were distributed to persons in all walks of life in and around the town as far as the barrios.

The survey then began on May 9, 1923. There being no technician on hand and with only one microscope available, only around twenty stool specimens could be examined daily. These examinations included the direct-smear and the concentration method, the later being necessary only in case the former proved negative for hookworm. The delay in the microscopical examination was also caused by the time the undersigned employed in training the personnel in the clinic which was composed of the physicians, sanitary inspectors, and nurses of the province. There were in all 126 stools examined, the result of which, as seen in the table attacked herewith, was as follows: Hookworm, 12 per cent; ascaris, 96 per cent; trichuris, 90 per cent; tænia, 0 per cent; balantidium coli, 5 per cent; all parasites, 91 per cent. These specimens were taken from persons whose ages range from 5 to 64 years.

Treatment was then begun on May 14, with only three patients because of the heavy rains that occurred during our clinic days. The second day, however, eight patients registered and the number of patients increased gradually every day, in spite of the continuous downpour, until a maximum of 220 was reached on June 4. Those who were treated in the clinic passed the word to their parents, relatives, neighbors, and friends, so that not only could the town people get the benefit of the treatment, but those in the barrios as well. There was altogether a great and immediate response on the part of the public, so much so that a day came when we fell short of medicine and some of those who applied for treatment that morning had to go home untreated.

The drug used was carbon tetrachloride, purified in the Bureau of Science. The people were notified to omit supper and breakfast, not to take alcohol in any form, and to go to the clinic in the morning of treatment, each with a mat, sheet, pillow, a chamber, and an attendant if any. In the clinic, each patient was given a slip for recording the name, age, sex. Then he was weighed in a balance and from here he carried the slip to a physician who made the physical examination and passed on the patient before taking carbon tetrachloride. After the physical examination, the patient proceeded to the physician who gave him the medicine according to weight and physical make-up. Any patient with heart disease, especially valvular lesions; liver troubles, especially cirrhosis; diseases of the kidneys, especially nephritis of the acute form; and alcoholism, whether acute or chronic, was rejected. Cases of pregnancy also, from the fourth month on, were rejected. After the administration of carbon tetrachloride, the patients were advised to stay in bed; otherwise if they go about the ward, they would feel dizzy and vomit.

One of the most common, if not the most common, complaint was general weakness, due of course to fasting, and headache. Dizziness was also complained of by the patients, but this feeling was only momentary in nature and disappeared as soon as the person began bowel movements. Not infrequently, abdominal pain, due to the active peristaltic movements of the intestines, was felt by those who took carbon tetrachloride. Bowel movements began from 10 minutes to 10 hours after the administration of the drug, and after three bowel movements the patients were discharged with the advice that they should take very light diet, preferably milk or soft-boiled rice, but nothing of solids, since it had been observed that if patients were allowed to take solids immediately after treatment, gastritis and even gastroenteritis was produced. While in the clinic, the patients were advised to drink water in order to hasten bowel movements. Vomiting frequently occurred among the patients for two reasons: first because of the offensive smell and taste of carbon tetrachloride; and, secondly, because there were those who were not accustomed to having in sight human dejecta. The latter was specially true when the screening of the fæces was done in the presence of the patients. Many instances have occurred when those companions and visitors of patients, upon the mere sight of human stools being screened, vomited so much that after a while they felt worse than the patients themselves.

The stools of those who were hookworm-positive in the microscopical examination, were screened to determine the parasite count for each individual, for, it is in the screen that all of the parasites expelled with the stools are picked up one by one. It was found out that the parasites begin to be expelled with the first bowel movement and continue to be discharged until the third or even the fourth day after treatment. The highest hookworm count to each individual that was obtained in Polo was 15, and the highest ascaris count was 30; but these counts cannot be taken as real, since, as has been said above, the patients discharge the parasites also at home or after discharge from the clinic.

A glance at the table attached, herewith, shows that in 19 days of clinic held in Polo, 1,621 persons were treated, or an average of 85 persons daily. Those treated in Polo came not only from that town but also from Obando, Malabon, Meycawayan, Marilao, and even from Sta. Maria. There were a few who came from Manila, but most of these were only employees in Manila with permanent residences in Polo.

The parasites that we collected from Polo were cosmopolitan in character, since they included hookworm, ascaris, trichuris, oxyuris, and tapeworm. This tapeworm was expelled by a girl nine years old, and it measure 4.30 meters in length. The entire body came out with the head. The mother of the girl gave me the information that almost every day her child used to expel pieces of that worm about an inch long, at times longer and at other times shorter. There were, therefore, separate bottles containing ascaris, trichuris, oxyuris, hookworm, and the tapeworm.

While the clinic was still in Polo, the presidents of sanitary divisions, the sanitary inspectors, and the six nurses of the

Province of Bulacan took turns in their duty at the clinic, and in this way gave each of them a chance to witness all that was to be done in the campaign, the most important being the laboratory part of the work and the treatment. In less than a week, those on duty could learn all the "ins and outs" of the clinic.

The clinic was then transferred to the town of Malolos where on account of the low topographical situation of the place, a higher percentage of hookworm was expected. In this town, the Malolos Lodge building, through the kindness of the masons of the place, was used for our clinic. The survey began on June 11 and the following day treatment was initiated with only three patients. Through the coöperation of the municipal president, the news about the free treatment was broadcasted throughout the town and to the different barrios. Within a short time, the laboratory table was filled with stool specimens from different persons. Here two microscopes were used so that about 50 specimens could be examined one day. The provincial officials were among those notified early of the campaign so that they were among the first to submit their stool specimens for examination. Many students also sent in their stools to our laboratory.

The teachers' normal institute having opened in Malolos, the undersigned took the opportunity of giving a lecture to the teachers assembled in the central school in the morning of June 13. After the lecture, many teachers sent in their stools to our laboratory for examination. Our records show that many of the teachers were found positive for hookworm, and all of those whose stools were examined were positive for parasites. There being a great enthusiasm on the part of the teachers to undergo the anti-hookworm treatment, we determined to assign a day for them. Saturday being a working day for them, Sunday, June 17, was selected as the teachers' day. During this day, 218 persons were treated, more than 50 per cent of whom were teachers. True to our microscopical examination, those who proved positive for hookworm in the microscopical examination expelled these parasites in their stools, as confirmed by the screen. When they saw that a great many of them were infested with ascaris and trichuris and a good number with hookworm, they wanted all their stools screened; but because of lack of personnel, for it was Sunday, only those who were positive for hookworm in the survey had their stools screened.

On June 18, 1923, a conference by three institutions namely, the Philippine Health Service, the Red Cross, and the Public Welfare workers, was opened and those in attendance were invited to visit our hookworm clinic, which was situated just in front of the two buildings of the central school, one of which was occupied by the normal institute of the teachers and the other by the conference. So, our clinic was almost daily filled with visitors, most of whom were students. On the second day of the conference, the undersigned was invited to give a lecture on the hookworm disease to those in attendance. Immediately after the lecture, I was asked to prepare a sort of a guide to nurses in the field, in order to give them suggestions as to what to do in case they find the hookworm disease among those they visit in their daily routine work. The third lecture was given in the provincial high school on June 28, 1923.

The great number of patients treated in a day in Malolos was that on June 19, 1923, when 310 patients took the anti-hookworm remedy. From this day on, the number of patients began to decline every day until it became 39 on the last day of our clinic, June 26. All in all, there were 1,713 in 15 days of clinic, or an average of 114 patients daily. While under treatment, the people used to take tea and coffee infusions; but since it was observed that these infusions caused more vomiting, the immediate suspension of the use of these was ordered. After this change only a few cases of vomiting were registered. The stools of all those positive for hookworm were screened, and it was in the town of Malolos where we obtained the highest individual hookworm count of 440. These parasites were taken from stools whose owner could not be identified because of the great number of specimens for screening. During the microscopical examination, we found the stools of a certain woman of about 50 years, with plenty of eggs of tænia. The eggs were so abundant that in the direct smear, there was scarcely a microscopic field without at least three ova of tænia. This woman was treated in our clinic, but unfortunately, she did not move her bowels until about 3 o'clock in the afternoon when she insisted on going home. Before discharge, however, she was given full instructions that she should perform an enema immediately on reaching home and that whatever parasite was expelled with her stools should be taken to our clinic for examination. But the story ended here, for the hour of discharge was the last time we saw her. We were not even notified as to the result of her treatment.

An interesting fact in the campaign in Malolos is that about the soldiers of the Philippine Constabulary stationed in that town. Out of 37 stool specimens of soldiers, including the provincial commander and another officer, 23 were found positive for hookworm, this number including the provincial commander himself; 17 had ascaris and 21 trichuris. There was no tænia found, but intestinal parasites were so common among the soldiers that out of these 37, only three were found negative for parasite; 11 had only one kind, another 11 harbored two kinds of parasites, and eight had three kinds, namely, ascaris, trichuris, and hookworm. These soldiers, including the provincial commander and the other officer and their families, were treated in our clinic and a careful screening of their stools made. It was found that those hookworm-positives in the microscopical examination discharged those parasites with every bowel movement, the number of hookworms discharged with each stools being from 4 to 10. Although a good number of the soldiers were hookworm-positives, the individual screen count was low, the greatest number of hookworm being 18 from one soldier. These 18 parasites were taken from four bowel movements.

During the 15 days of treatment in Malolos, two fatal accidents were recorded in connection with the campaign, but these accidents cannot be taken as solely caused by the administration of carbon tetrachloride, as will be shown later on in this paper. One was that of a girl nine years of age, thin, pale and of a rather weak constitution. She was negative for liver, heart, and kidney trouble. She took carbon tetrachloride in the morning of June 18, 1923, together with a sister seven years old, and had two bowel movements in the clinic when she expelled six ascaris. Upon arriving home, she was given a soap sud enema by her grandmother and she expelled two more worms. The girl was apparently well from that time until about 2 p. m. on June 20 when she began to complain of a slight headache, fever, chilly sensations, and joint pains, so that she immediately stayed in bed. The fever grew worse and worse and the patient became prostrated with occasional chlonic convulsions of both upper and lower extremities. The undersigned was called to the case on the afternoon of June 21, the second day of the illness; and when I arrived, the patient was in a comatose condition with a fast weak pulse and stertorous breathing. There was a slight rise of temperature. Camphorated oil, 2 c. c., was quickly given by hypo; and about 15 minutes after, caffein was given also by hypo. The ice-cap was ordered placed over the head continuously and only liquids were given for diet. The third day of the disease, I went to see the patient again and found her to be worse than on the previous day, for she would not awaken any more. Her temperature came down to normal, but her extremities were cold and both eyes were half closed and with evidence of scleritis. Camphorated oil was again given by hypo since there was evidence of an impending heart failure. The patient, from that time on, never recovered from her comatose state, and in the afternoon of the fifth day of the disease, she expired. We tried to convince the parents of the deceased to have an autopsy performed, but to no avail.

The other fatal case was that of a boy of about seven years of age who took the medicine and had only one b. m. in the clinic and expelled five big ascaris. In the afternoon, the patient was discharged and enema was given him immediately upon arrival at home, with good results. At midnight, however, the boy began to have fever, headache, with frequent convulsive attacks. In the afternoon of the next day, I went to see him and found him to be seized with frequent attacks of convulsions, fever, and tympanitic abdomen. A cathartic enema was given; and the heart being in a rather weak condition, 1 c. c. camphorated oil was given by hypo. The ice-cap was placed over the head continuously and on the following morning another injection of camphorated oil was given because the patient was apparently weaker than on the previous day. The breathing this time was rather deep and stertorous and the patient was slightly unconscious. The child, however, would not react to the medicament and the seriousness of the disease increased, until finally the patient died in the afternoon of the third day of illness.

During this time, I went around those places where the children died; and, to my surprise, I found many cases of dengue, especially among children, with some cases also among adults. The people of Malolos then believed that carbon tetrachloride was the cause of death of these two children, but their belief was immediately changed when one day a father, who had been treated, took his seven-year-old son to the clinic as his attendant. While the father was under treatment, the son was playing in and around the clinic without any ailment at all. At about 12 noon, the father was discharged from the clinic, he having moved his bowels five times. The father was, however, surprised when soon after arriving at home, the son was suddenly seized with convulsions and fever and so he went to call for a doctor in the clinic. Medical attendance was promptly given the patient, but to no avail; since a few minutes after, the boy died. The symptoms of this boy were the same as those of two children above-mentioned, the only difference being the duration of illness. Like the previous two cases, there were also many dengue cases around the place where the last boy died. A very similar fatal case occurred in the town of Paombong and one in Hagonoy, the deceased children not having been treated with carbon tetrachloride at all.

The result of the survey in Malolos, as seen in the accompanying table, shows the following: Hookworm, 39 per cent; ascaris, 68 per cent; trichuris, 70 per cent; tænia, 0.4 per cent; balantidium coli, 4 per cent; all parasites, 94 per cent. There were 246 stools examined.

From Malolos the campaign was carried to San Miguel de Mayumo. The survey began in this place on July 2, 1923. In the morning of the same day, a lecture on ankylostomiasis was given in the San Miguel Elementary School. The survey lasted three days, and on July 6, treatment was begun with 49 patients. This number increased daily, since not only those of San Miguel were treated but also people from Candaba, Pampanga, and even from Cabanatuan, Nueva Ecija, took advantage of that opportunity and went to San Miguel for prescription. The greatest number of persons treated was that of July 14, when 243 presented themselves at our clinic, this number including teachers and students. The clinic was transferred from the lodge of the Legionarios del Trabajo to the two-story school building. The result of the survey in San Miguel, as seen in the accompanying table, is as follows: Hookworm, 20 per cent; ascaris, 71 per cent; trichuris, 72 per cent; tænia, 0 per cent; balantidium coli, 3 per cent; all parasites, 99 per cent. The total number of stools examined was 208 and the total number of people treated in 13 days of clinic in San Miguel was 1,492, or an average of 115 persons daily.

In San Miguel we obtained a high ascaris count for each individual, the highest number that a man expelled being 42. Two persons expelled tapeworm, but the worms were not taken to our clinic but given to chickens since these worms were expelled when the patients were already in their homes. An interesting fact that occurred in San Miguel in connection with the administration of carbon tetrachloride was that three days after treatment, a woman had all over the body eruptions simulating ringworm. These eruptions were ring-like in form, with slightly elevated edges and were very itchy in nature. Upon application of an anti-prutific mixture, however, the pruritis disappeared, and a few days later these eruptions reappeared.

The clinic was then transferred to the town of Baliuag on July 23, 1923. The survey began on this day and lasted only two days so that on July 25, treatment was begun with 60 patients. The clinic here lasted 14 days and in all there were 2,426 persons treated, or an average daily record of 174 patients. The largest number of patients treated daily was in Baliuag where 323 applied for treatment on August 1, 1923, in spite of the heavy downpour at that time which forced us to look for another building, since all the 323 patients could not be accommodated in the clinic. So we had to ask the owner of the theatre just in front of the clinic and we made this the men's ward, while all the women stayed in the old building. The people treated in Baliuag came from the town itself and from the neighboring towns of San Rafael, Bustos, Angat, Norzagaray, Pulilan, San Ildefonso, and also from Candaba. There were, as in San Miguel de Mayumo, patients coming from Cabanatuan and Gapan, Nueva Ecija.

In Baliuag two fatal cases were recorded during the 14 days of treatment in that town. The first was the case of an old man of about 50 years. Before a patient's slip is approved by the physician, his or her habits are first investigated, especially with regard to alcoholism. The old man, desirous of being treated, at all cost said that he never took alcohol. After four bowel movements, this man was discharged from the clinic; but as soon as he reached home, he began to vomit and was beginning to have slight convulsions and was in a rather agitated state of mind. A physician and a nurse, both of the clinic, were immediately summoned and the necessary remedy was given. The physician and the nurse were called to the place three times and at the last visit the patient was having symptoms of delirium tremens. On the third day of the disease, the patient died. Investigation afterwards revealed the fact that on the night previous to treatment, the patient took a glass of gin in a Chinese store. This, then, is the source of all the trouble. Just a little wine—and a lie—and a man goes to the grave! This points out the fact that alcohol is a great contra-indication to the administration of carbon tetrachloride.

The second case was that of a boy 16 years of age, of a healthy body and apparently sound constitution. This boy was treated on the morning of August 4. After the first bowel movement, however, the boy began to eat cake, biscuits, and "goto," a native dish composed of soft boiled rice with chicken meat and spices. According to a companion, the deceased took a bowl of "goto" and the cake, biscuits, and some guava fruits besides. After four bowel movements, he was dicharged, and in the evening of the same day he began to have the symptoms of acute gastro-enteritis, vomiting, and diarrhœa. The gastro-enteritis was so acute and severe that, in spite of all the remedy given, the boy died in less than 24 hours after the onset of the attack.

Besides these two fatal cases, there were no other serious accidents reported. The most common complaint after treatment, however, is gastritis, varying in degree of severity from slight retching to almost continuous vomiting, with acute pains in the stomach region. The administration of plenty of sodium bicarbonate and Potio Riveri, together with abstinence from food, usually cures the patient in a day or two.

A survey of the table attached shows that Baliuag has only 16 per cent of hookworm, 80 per cent of ascaris, 86 per cent of trichuris, 0 per cent of tænia, 5 per cent of balantidium coli, and 95 per cent of all parasites. There were altogether 135 stool specimens examined.

One interesting fact about the screen count in Baliuag was that of a girl 11 years of age who expelled more than 200 ascaris, while those of her elder sister of 18 were slightly less, 102 in number. These are so far the highest ascaris count ever reached during the campaign against hookworm.

The clinic that was held in Santa Maria began on June 27 and lasted until July 9. There were in all 109 patients treated, the highest number of patients daily being 36 and that was on the last day. The result of the survey of the town of Santa Maria was as follows: Ascaris, 56 per cent; trichuris, 60 per cent; hookworm, 26 per cent; all parasites, 87 per cent; tænia, 0 per cent; and balantidium coli, (no record).

SUMMARY

The campaign against hookworm that was established in the Province of Bulacan was met with enthusiasm by the people of that province, as evidenced by the great overcrowding that took place in our clinic. The people were so anxious about being treated that instances have occurred when a person was treated twice with four days' interval, without our knowledge. Not only were the inhabitants of the towns where the clinic was established treated but also those from neighboring towns and barrios as well.

As a result of the survey, Malolos showed the highest percentage of hookworms, 39 per cent; while Polo had the lowest with

12 per cent. Santa Maria had 26 per cent; San Miguel 20 per cent; and Baliuag, 16 per cent. As regards ascaris, one of the two most common intestinal parasites, Polo heads the list with 96 per cent, while Santa Maria has the lowest with 56 per cent. Of trichuris, the almost inseparable companion of ascaris, Polo again is at the top with 90 per cent, and Santa Maria at the bottom with 60 per cent. Of the 922 stool specimens examined throughout the province, only one came out positive for tænia, and this was in Malolos. The general average per cent for balantidium coli is 4. The percentage for all parasites is as follows: San Miguel with 99 per cent; Baliuag, 95 per cent; Malolos, 94 per cent; Polo, 91 per cent; and Santa Maria, 87 per cent. A review of the record above readily strikes one's attention by the high percentage of intestinal parasites in the province in general and in San Miguel in particular. The percentage of hookworm in Bulacan is on the whole very low, compared to that of Cebu Province, the former having an average of 22.6 per cent, while that of the latter is 79 per cent, or almost four times as high. The highest number of hookworms taken from one person in the entire province was that in Malolos, 440 and the highest ascaris count to each person was that of a girl 11 years of age in Baliuag, which was more than 200. Tapeworms were not very common; and during the entire period of the campaign one was found in Polo, one in Malolos, two in San Miguel, and two (from one person) in Baliuag; that is to say, out of 7,361 persons treated only six tapeworms were found.

The hookworm campaign served three purposes. The clinic was used not only for the treatment of hookworm but also for other intestinal parasites, since, carbon tetrachloride, as has been previously stated in this paper, was apparently effective for quite a number of intestinal worms. Similarly, the clinic became the place where the people were given a clear idea of how infection may take place, that the insanitary mode of living, especially as regards the disposal of human excreta, was not in the least recommendable. There was, therefore, together with the hookworm survey, the campaign for health education in general and for the construction and use of sanitary closets in particular.

To assist the educational propaganda, several moving-picture films, one of which was about hookworm, were exhibited in the theatre of San Miguel de Mayumo for one night and in the town of Baliuag for another.

Towns	Percentage of hookworm	Percentage of ascaris	Percentage of Trichuris	Percentage of Tænia	Percentage of Balantidium coli	Percentage of all parasites	Total number of stools examined	Total number of persons treated	Total number of days of clinic	Average number of patients daily
Polo	12	96	90	0	5	91	126	1,621	19	85
Malolos	39	68	70	0.4	4	94	246	1,713	15	114
San Miguel de Mayumo	20	71	77	0	3	99	208	1,492	13	115
Santa Maria	26	56	60	0	0	87	107	109	7	15
Baliuag	16	80	86	0	5	95	135	2,426	14	174

GREAT OPPORTUNITIES FOR PUBLIC HEALTH RESEARCH

By Teofilo Corpus, M. D.

Medical Inspector, Philippine Health Service

The Philippines has a wide field for research covering public health problems. This paper will only limit itself to the diseases that concern sanitation. The research becomes important when we come to think that there is a limited number of workers in this paticular field. The diseases of cholera and smallpox are no longer problems of sanitation in this country. A certain number of diseases, however, are regarded as yet important health problems.

Yaws is one health problem. The Annual Report for 1921 shows that 1,484 cases were treated. The disease is thought to be syphilis in this country. The Wassermann test is positive in yaws and salvarsan is a specific for the disease. Will any investigation be conducted to differentiate syphilis and yaws by this test alone when all primary and secondary symptoms are absent?

Hundred of applicants for Philippine Scouts are not accepted after showing a positive Wassermann test. But is this positive result due to syphilis or yaws? Will this condition be investigated so that the choice of recruits may not be hindered?

Salvarsan usually cures an uncomplicated syphilis case in from five to eight doses at 0.5 gm. each at a weekly interval. What should be said about yaws? How much salvarsan is needed for its cure? Will anyone determine the proper dosage?

Hookworm is also an important problem from the sanitary point of view. From 40 per cent to 80 per cent of the Filipinos have hookworm. Anemia through hookworm is more marked than that of malaria. Children infected with hookworm are thin, big-bellied, behind in studies, inattentive, restless or sleepy. The presence of this little worms may cause invalidism and perhaps death.

The search for the best remedy for these worms is a profitable investigation to make. Thymol, oil of chenopodium, and carbon-tetrachloride have been tried, and the last remedy seems to be the best. Who will volunteer to look for a specific drug for this disease?

Through all recorded history, tuberculosis stands out as the greatest common foe of all races and all countries. Unlike other diseases, it attacks the warm-blooded and the cold-blooded animals: the fish of the sea, the fowls of the air, and the living things that move upon the earth. Tuberculosis is more than the enemy of man; it is the enemy of life. It is, beyond comparison, the most important disease which man has to deal with.

In this country about 22,000 die of tuberculosis every year. To borrow Osler's forcible words: "In the 60 homes of the Philippines, there is lamentation and woe to-night; husbands for their wives, wives for their husbands, parents for their children, children for their parents! A mere repetition of yesterday's calamities! And if the ears of your hearts be opened, you can hear while I speak the beatings of the wings of the angels of death hastening to the 60 appointed for to-morrow."

Now, will health officers volunteer to seek the specific cure for this disease? Will those interested in the work try to discover the specific for tuberculosis, like salvarsan for syphilis? Who will volunteer?

Leprosy is another sanitary problem. More than 5,000 lepers are isolated in the Culion Leper Colony; still many are found in the provinces. Sodium gynocardate, sodium morrhuate, the Mercado mixture, and ethyl esters are used; and the last seems to give the best results.

It may be stated positively, however, that there is not yet a specific cure for the diseases, although radium, the X-ray, and others may be perfected. Who will be the fortunate man here to find a sure cure and call it after his name? Will it not sound plausible if every province is authorized to make its own investigations and to treat all persons with leprosy in its ways and with drugs that are thought best to apply? Which health officers will venture to do this big task for humanity's safe?

Malaria is another health problem. About 31,321 deaths occurred in 1921, when these losses could have been prevented. It is a well-known fact that this disease reduces man's working efficiency and causes great economic loss.

The Rockefeller Foundation, with the coöperation of the Philippine Health Service, is now waging a campaign against the disease. It may be that the campaign will be general in the near future. Will there be more efficient prophylaxis and radical treatment for malaria than is found in quinine? Who will step forward to spend a part of his life for this work alone?

Typhoid-fever is another preventable disease. About 2,354 deaths were registered for 1921, and much money is invested in the antityphoid vaccinations every year. To stamp out this disease, a proper disposal of excreta must be instituted and a safe drinking water and milk supply be installed. Who will be the discoverer of improved ways and a specific drug for the treatment of typhoid fever?

There are some other preventable diseases of the same importance, such as dysentery and rabies. These diseases also cause many deaths every year. Who are the persons interested in problems of dysentery and rabies?

These are some of the many public health problems that the Health Service has to face. The health officers alone will have to solve them. Shall we hail the health service? Will the health officers display their interest in the solution of the problems for the prevention of these diseases?

In order to carry on the work of medical investigations, the creation of a Division of Public Health Investigations, composed of expert investigators, seems plausible. That office will undertake and carry out public health investigations. By this plan, it seems necessary that the Philippine Health Service will have to be provided with a well-equipped research laboratory of its own where the work can be carried on upon a scientific basis.

Likewise, it seems that a medical investigator will have to be appointed in every province, to be called the Local Public Health Investigators. He will coöperate with the Central Public Health Investigators stationed at Manila. It may be predicted that this new division, once created, will greatly benefit the service in general and the people in particular.

MISCELLANEOUS

CHOLERA

Cholera has appeared in your vicinity.

It is a very fatal disease, and may very easily spread and kill many people.

Fortunately, it can be prevented from spreading; but in order to do this

YOU MUST HELP!

Cholera is caused by a germ which leaves the sick person in the bowel discharges and vomit.

It causes sickness in the healthy person by entering the body through the mouth, usually in contaminated water or food.

In order to keep yourself, family, and friends from being.

SICK

Follow these simple precautions:

RIGHT RULES FOR HEALTH

1. Wash your hands thoroughly with soap and water before each meal and after each visit to the toilet.
2. Get your drinking water from a pure source. Get and keep your water in a clean container. Keep your hands out of it. Boil it before you drink it.
3. Eat only freshly cooked food. Keep it in clean dishes, protected from flies. Do not use your fingers in eating, for fingers are liable to become infected. Eat with a fork or spoon.
4. Keep away from sick persons.
5. Report at once to the health authorities any case that has any symptoms of diarrhœa, vomiting, or cramps.

The sooner the doctor sees such a case, the better its change of recovery is.

The sooner he sees it, the better is the chance of you and your family not getting the disease.

6. See that all bowel discharges are passed into some safe place, like an Antipolo closet, where they cannot get into water and where hogs, dogs, chickens, or flies cannot get at them.
7. Flies may carry cholera by feeding on cholera discharges and then flying to food and contaminating it. Clean up, burn, or bury all filth and refuse about your house, so that flies cannot breed in it.
8. Inoculation against cholera is an effective way of preveting people from getting it. The health authorities may find it necessary to inoculate you. Cholera inoculation does not hurt. It only does good.

If you follow these simple instructions, and help the health authorities, there is very little chance of your getting cholera.

AVOID IT!

CANTON HEALTH COMMISSIONER MAY ADOPT MANILA HEALTH LAW

The Director of Health is in receipt of a letter from Dr. H. Pan, Commissioner of Public Health in Canton, China, requesting copies of the Municipal Ordinances, Yearly Budget, Rules, Regulations, and Forms relating to slaughterhouses, inspection of meats, sanitation, prevention of diseases, etc., to be adopted in public health work in that locality.

The letter was referred to His Honor, the Mayor of the City of Manila, with the request to favor the Commissioner of the Public Health of China with copies herein mentioned, and this has been complied with according to the City Mayor.

Dr. Jose A. Fernandez, of the selected pensionados of the Philippine Health Service for this year to specialize in psychiatry in the United States, fell from his horse while on his way to Manila from Bontoc, by order of the Director of Health, and received injuries on the back. Doctor Fernandez is scheduled to sail on August 22.

SISTER CLOTILDE DIED AT CULION

Sister Clotilde died of septicemia in the morning of July 31 at Culion according to a telegram received by the Director of Health. Sor Clotilde was one of the ten Sisters, who devotedly worked for the happiness of the lepers in the colony. The others are Sister Superior Marie, Sor Calixto, Sor Lucine, Sor Filomena, Sor Josephine, Sor Marguerite, Sor Marie Damien, Sor Pilar, and Sor Caridad.

It would be useless to attempt to put in words the debt owed Sor Clotilde and the rest of the Sisters for their faithful self-sacrificing service to the most unfortunate of the lepers.

The remains of the deceased, which were embalmed, will be transferred to Manila by the first available transportation for interment at La Loma Cemetery.

TWO PENSIONADOS OF THE PHILIPPINE HEALTH SERVICE THIS YEAR

Dr. Jose Fernandez will take a two-year's course in psychiatry and care of the insane to fit him for work in the insane asylum in these Islands. His first year will be devoted to the courses on this subject in the College of Physicians and Surgeons, Columbia University, New York, securing practical experience at the same time at the Backwell's Island Hospital for the Insane. In his second year, he will take advanced psychiatry under Dr. Adolph Meyer, Baltimore, with clinical work at the Phipps Institute.

Doctor Fernandez until at present as a resident physician in Bontoc Hospital and work in this capacity for one and one-half years in the Insane Department of San Lazaro Hospital. He was also detailed in several health stations in Manila, as Medical Officer in charge of leper collection trip, Assistant District Health Officer in Mindoro and Romblon, member of Leprosy Investigation Committee and in the Venereal Clinic of the Philippine General Hospital. He is a graduate of the College of Medicine and Surgery, University of the Philippines, in 1920.

Dr. Jose Guidote will take a one-year course in public health to better fit him for practical health work in the field in these Islands. The first five weeks will be devoted to the condensed course at Johns Hopkins University, with four or five months' practical training in the health service of Albany, about two months in the health service of New York City, and the remainder of the time in rural health work in North Carolina.

Doctor Guidote until recently is District Health Officer of Rizal since 1920. The installation of Antipolo System and midden sheds in many municipalities of the province, and the construction of an emergency hospital and a refuse incinerator in Antipolo are credited to his efficiency as a health worker.

Doctor Guidote is graduated from the University of Santo Tomas in 1914. He was also detailed as Acting District Health Officer of Palawan, Assistant District Health Officer of Bulacan, and District Health Officer of Tacloban. He is now Senior Medical Inspector of the Philippine Health Service.

DOCTOR LAYGO'S LATEST REPORT ON SAMAR MEDICAL RELIEF WORK

Doctor Laygo reports that from June 1 to July 29, there were 356 cases of dysentery and 75 deaths in Borongan, Samar. He expects that this condition will be improved in a month time. He also reports that malaria is prevalent and yaws is found in scattered foci in Hernani. Educational health lantern slides are shown in the municipalities of the province.

For a thorough antidysentery campaign in Borongan, Doctor Laygo sent the following memorandum to the District Health Officer of Samar:

1. Dysentery is prevalent in the municipality of Borongan, amœbic and bacillary types being both present.

2. Altho the situation is far from being desperate, yet it is imperative to undertake a systematized campaign for the prompt eradication of dysentery, the same to be conducted along the lines set down below:

(*a*) *Disposal of feces.*—An ordinance is in force in the municipality requiring the installation of Antipolo closets. Steps should be taken to enforce the same, the enforcement to be tempered in such a manner as the existing depressed financial conditions following the recent typhoon disaster require.

(*b*) *Medical Relief for the Sick.*—A thorough canvass of the existing cases of dysentery should be made so that proper medical treatment and sanitary precautions may be instituted and taken. Tact and patience should be exercised in this connection in view of the low culture obtaining among the masses, who at best are refractory to modern medical practice.

(*c*) *General Sanitation.*—Houses and premises should be maintained in sanitary conditions. All refuse and garbage should be properly disposed of, or burned, and the general conditions of living improved under constant advice and instruction through health education. Arrangements should be made with the municipal president for the sanitary maintenance of public buildings, premises and thoroughfares and the pounding of all domestic animals found at large in public plazas and streets.

(*d*) *Water supply.*—The existing water supplies should be maintained in proper sanitary conditions.

(*e*) *Reporting of dysentery cases.*—Arrangement should be made with the municipal president for the prompt notification of all cases of dysentery in the poblacion and barrios.

DOCTOR JOVEN BACK FROM INSPECTION OF ANTI-SMALLPOX VACCINATION

Doctor Joven, of the Division of Communicable Diseases of the Philippine Health Service, is back yesterday after a month inspection of the work of vaccinating parties in several points of the Islands. In general he brings with him a good impression of vaccination work.

He inspected the vacciation work of vaccinating party No. 4 in Tarlac; that of vaccinating party No. 1 in the municipalities of Dauin, Bacon, Luzuriaga, Sibulan, Ayuquitan, Tanjay, Bais, and Dumaguete in the Province of Oriental Negros; that of vaccinating party No. 9 in the municipalities of Capiz, Panitan, and Pontevedra in Capiz; that of vaccinating party No. 6 in the municipalities of Albay, Tabaco, Tiwi, Daraga, Camalig, and Libog in the Province of Albay; that of vaccinating party No. 2 in the municipalities of Batangas, Lipa, Rosario, Santo Tomas, and Tanawan; and the vaccinating work in the municipalities of Arevalo, Oton, Ticbuan, and Cabatuan in the Province of Iloilo.

Doctor Joven has urged the vaccinating parties working in Oriental Negros and Capiz and the provincial vaccinators in Iloilo to pay greater attention in the vaccination of children under one year of age and those of pre-school age in accordance with the circular of the Director of Health.

DOCTOR LOPEZ AND MR. MAÑOSA FROM OCCIDENTAL NEGROS

Doctor Lopez, Acting Chief, Division of Communicable Diseases, and Mr. Mañosa, Acting Chief, División of Sanitary Engineering, have just retruned from their inspection trip to Occidental Negros. Doctor Lopez has conferred with Governor Montilla and the presidents of the sugar centrals and sugar-planters with regards to sanitation and health of laborers. He also inspected the Contagious Disease Hospital in Iloilo.

Mr. Mañosa states that a hospital site in Bacolod has been selected. He inspected the *Fábrica Insular* and the Lumber Company in that municipality.

A detailed report will soon be submitted to the Director of Health with regards to the trip, together with their recommendations.

MALARIA WORK IN IWAHIG PENAL COLONY

Doctor Aberin is continuing the malaria campaign that was started by Doctor Padua in Iwahig Penal Colony. He reports that in the months of October, November, and December of last year, he found 14, 6, and 3 cases of malaria, respectively, in the colony. From January to June of the present year, however, not a single case of the disease has appeared among the colonists.

For the prevention of malaria in that colony, Doctor Aberin enforces the use of mosquito nets, and any case found with even a slight fever is immediately given a prophylactic treatment of quinine. Malaria cases are treated with the hypodermic injections of hydrochloride of quinine and urea.

JAPANESE APPRECIATES HOSPITALITY IN SAN LAZARO HOSPITAL

A letter was received form M. R. Aoyama, 430 Legarda, resident of Manila, telling of the recent utmost hospitality rendered to a Japanese who was committed in the insane department of the San Lazaro Hospital and was released sometime ago, entirely well and in his normal condition.

Mr. Aoyama was very much pleased and thankful. To reward even a tiny part of this gratefulness he voluntarily desires to give ten pieces of "Collon Gris Textile" (each piece 40 yards by 28 inches), which probably may be of great use to the San Lazaro Hospital.

PRESENT DYSENTERY SITUATION AT BORONGAN

The situation remains practically unchanged in so far as the daily number of deaths from the disease is concerned according to Doctor Laygo of the Philippine Health Service. However, the number of new cases is decreasing. With regard to the attitude of the people toward sanitary measures, practically all of the measures instituted have been complied with, especially those pertaining to fecal disposal and water supply. A great number of people still refuse to accept modern medical treatment.

Doctor Laygo reports that the total number of deaths from dysentery from May 20 to August 8, 1923, was 69.

DISTRICT HEALTH INSPECTOR INTENGAN BACK FROM THE NORTH

Doctor Intengan of the Division of General Inspection, Philippine Health Service, has arrived from an extensive inspection trip in the northern provinces including Cagayan, Isabela, Nueva Vizcaya, part of the Mountain Province, and Pangasinan.

The health condition in Nueva Vizcaya is normal except in Solano where certain intestinal diseases occurred with deaths. Preventive and suppressive measures were instituted and the disease disappeared in time. This province is well provided with good toilet facilities and there is a good water supply. The new hospital will be opened to the public before the end of the year.

Dysentery typhoid and other intestinal diseases occur in the Provinces of Cagayan and Isabela, because at these places from Cardon to the municipal district of Langangan there is not a single artesian well, and the people depend upon the Cagayan River for its water supply. There is short of health fund due to the failure of tobacco crop and the destruction of corn by the locust pest.

VACCINATING PARTIES AT WORK IN THE PHILIPPINES

There are ten vaccinating parties, each composed of one chief, one assistant chief, and ten vaccinators who are now engaged in vaccination work in the Provinces of Oriental Negros, Batangas, Ilocos Sur, Bataan, Samar, Albay, Zamboanga, Surigao, Capiz, and Zambales. The average daily vaccination of each party is 395, and it is estimated that the systematic vaccination work in these Islands will be completed within seven years.

In the City of Manila, there is a group of 14 vaccinators, 7 of whom are engaged in performing vaccinations on children from one month to one year of age, while the rest are directed to make house-to-house re-vaccination of the residents found in them besides vaccinating those children who have recently arrived in the city from the provinces and those born in Manila without positive marks of vaccination.

The total salaries and expenses of all vaccinating parties annually are ₱132,397 and the total number of vaccinations up to July 31 was 419,210 of which 153,503 are positives, or 57.28 per cent, and 114,626 negatives.

MALARIA WORK IN PAMPANGA AND BATAAN

The malaria survey has been continued during the past month along the lines previously outlined in Pampanga and Bataan according to Sanitary Engineer, W. D. Tiedeman, of the Rockefeller Foundation. Observations of mosquito breeding and the prevalence of malaria have been continued in the barrios in which the control work is to be undertaken. Some interesting figures have been compiled of the cases of malaria occurring at Hacienda Tucup, Dinalupihan, Bataan from March 21st to June 29, 1923. Out of a population of about 650, 218 persons or 33.5 per cent had at least one attack of malaria during this period. Of these 218 persons, 81 or 37 per cent had more than one attack. One person had eight attacks during this short period.

The work of testing the larvacidal properties of local materials has been continued with no results worthy of special mention at this time.

Another species of cannibalistic mosquito larva has been found breeding in grass fields with anopheles larvæ and its habits are being studied to see what practical use can be made of it. This larva is the most promising of the cannibalistic larvæ encountered so far.

PLAN FOR CAVITE DISPENSARY HOSPITAL AND LABORATORY AND PUBLIC CLOSETS

The plan for the construction of a Dispensary Hospital and Laboratory combined for the Province of Cavite has recently been approved by the Committee on Hospitals, Dispensaries, and Laboratories according to the District Health Officer of the province.

The Dispensary-Hospital-Laboratory will be a concrete one-story building, 6.80 x 7.20 meters, with four rooms: office of the president of the sanitary division, one to serve as dispensary and another as operating room. There will be a ward for two beds. The laboratory, 4.80 x 4.80 meters is separated from the rest of the building by a small passway. The building will be provided with a septic tank.

It will be constructed near the municipal building of the town of Cavite and will cost ₱3,000. A second story may be added later if the financial condition of the province allows it. The construction will soon be started and the building is expected to be completed within 60 days.

Likewise, ten public closets, which will drain into the sea, will soon be built. The sum of ₱3,000 from provincial health fund has been set aside for this purpose. The municipalities of Imus, Kawit, and Alfonzo have also under study the installation of the Antipolo system of toilets.

ANTITYPHOID AND ANTICHOLERA INOCULATIONS IN MANILA

From January 1 to July 31, there have been 319,421 antityphoid inoculations carried out in the City of Manila. This may be said to be equivalent to about one inoculation for each resident of the City, indicating the great amount of valuable work which has been done. Doctor Catanjal, Chief of Metropolitan Sanitation, has been in immediate charge of this excellent work, which has been accomplished without public oppsition or newspaper notoriety. Inoculations have been given as follows:

First inoculation	136,069
Second inoculation	98,075
Third inoculation	85,277
Total	319,421

This means that something more than a quarter of the people may be regarded as satisfactorily immunized against typhoid, more than another quarter have a fair degree of protection, and that a slight protection has been establish in something more than another third. It is often not easy to find the people to give the later inoculations. The work is being pushed steadily, at the rate of about 2,000 inoculations per day.

Typhoid still occurs too frequently among those not yet inoculated. There were 65 cases among Manila residents in July, despite the large part of the population which has recently been immunized more or less competely against the disease. There was reduction this month so far, there being 28 cases from August 1 to 16, inclusive. The infection seems widely spread, and as yet no special sources of infection have been found.

Typhoid fever has unquestionably become one of the serious permanent health problems of Manila and the Philippines as a whole. The extension of general sanitary improvement will of course help to prevent it. But inoculation affords the most promising field of control at this time. Unfortunately the presente technique requires a vast amount of inoculation work, and what is being done now will need to be repeated in 1927.

A very valuable feature of the inoculation work against typhoid has been the coincident inoculation against Asiatic cholera. A mixed vaccine has been used, and a majority of the population of Manila may be considered as protected against cholera at this time. No case of cholera has occurred in Manila during the present year, although cholera carriers are not infrequently detected and two "cholera carriers" are in detention at this time.

CONTAGIOUS HOSPITAL IN ILOILO

A contagious hospital has been erected recently in Iloilo. It will be used exclusively for contagious diseases, and the St. Paul's Hospital and the Mission Hospital may handle non-contagious diseases.

Some more improvements will be introduced, however, as the division of the hospital into wards for different classes of cantagious diseases, quarters for personnel, installation of adequate water supply and a sterilizing chamber, and the pavement of hospital road.

YAWS CLINIC IN BULACAN

Doctor De Leon, District Health Officer of Bulacan, reports that a yaws clinic operates regularly every Wednesday in the municipalities of Malolos in charge of the president of the sanitary division, Doctor Santiago. From 10 to 20 injections with neosalvarsan are administered every clinic day to patients, who mostly show keratosis forms of the disease.

Oftentimes, a yaws clinic is also given in the municipalities of Bocaue, Santa Maria, Hagonoy, San Miguel, and Paombong under the charge of the presidents of the two sanitary divisions in the respective municipalities. A total of 399 injections were given from January to August 17, distributed as follows: Malolos, 279; Paombong, 65; Bocaue, 42; San Miguel, 11; and Santa Maria, 2.

MORTALITY IN THE CITY INSANE ASYLUM

As a preliminary step to prevent the high mortality of inmates at the City Insane Asylum, Dr. Elias Domingo, visiting phisician to the City Insane Asylum at Lolomboy, has recommended to the Director of Health that a survey to determine the incidence of intestinal parasitism among the insane be made. In this connection, Dr. Roberto B. de Leon, district health officer of Bulacan, reports that arrangement is now under way to start the work.

On the other hand, Doctor De Leon states that culture of stools to find out the incidence of typhoid fever, cholera, and dysentery cannot be done at Bocaue due to lack of personnel and laboratory facilities. The result will not be satisfactory if the examinations are done in the Bureau of Science, because of the length of time the specimens would take to reach that bureau.

ANTIDYSENTERY CAMPAIGN IN LEYTE

District Health Inspector Kierulf reports that antidysenteric campaign has been organized in the municipalities of Jaro, Carigara, Barugo, Tacloban, and Ormoc. In the two latter municipalities the dysentery cases are somewhat increasing.

In general the dysentery situation in the whole Province of Leyte is not alarming; in fact, during the last two weeks the condition showed a marked improvement. The bacillary type of dysentery occurs in children from one to ten years, and the amœbic type in adults.

From the weekly reports of the municipalities from July 7 to August 4, there were 345 cases of dysentery with 198 deaths in the whole province.

A systematic campaign for the prompt eradication of dysentery is being conducted with strict reference to disposal of feces, medical care for the sick, general sanitation of the locality, water supply, and reporting of dysentery cases.

PUBLICITY WORK OF THE PHILIPPINE HEALTH SERVICE

The Director has issued the following circular regarding publicity work in Health Service:

"The reorganization of the Philippine Health Service which took effect on July 9, 1923, contemplates, among other things, to widen the scope of publicity work of the Service. The merchants make a profitable sale of their goods by means of advertisements and propaganda, and because the work of the health service has to be offered to sale to the public, a similar publicity should be undertaken also. The Service has been blamed in the past for lack of an extensive publicity program. It, therefore, must needs be pushed on before it is too late!

"The Service has recently started anew a regular Daily Bulletin. Health news items are prepared by the Office of the Acting Executive Officer. These news are then sent to the nwspaper editors in Manila and the provinces for publication. This brings the Service in close touch with the general public.

"Therefore, everyone concerned is requested to send regularly to the Office of the Director of Health short, pithy news items, either general or personal, for publication. The progress of the work of the offices, health stations, hospitals, health districts, and sanitary divisions especially with regard to hookworm, yaws, *ulcus tropicum* and malaria campaigns, leprosy work, sanitary improvement introduced and contemplated in the near future, existence of infectious diseases and the measures taken for the eradication, work of the district nurses, or other health news items that may be of interest to the public, should receive special attention."

VACANCIES FOR NURSES IN THE PHILIPPINE HEALTH SERVICE

The following provinces have existing vacancies for nurses: Pampanga, 2 at ₱70 monthly with ₱2 per diem; Laguna, 2 at ₱70 with an allowance of ₱40; Romblon, 2 at ₱110 and a per diem of ₱1.50; Pangasinan at ₱70 with an allowance of ₱40; Tarlac, 3 at ₱50; Agusan, 1 at ₱50 with subsistence, quarters, and laundry; Misamis, 3; Surigao, 1; Lanao, 1; and Zamboanga, 1. The salaries in these later four provinces are not stated. All these places need female nurses except in Romblon where males are preferred, and the nurses are given free transportation.

If the respective provincial boards approve it, there are also proposed openings for nurses in Leyte, Pangasinan, and Abra. Applications shall be sent to the Director of Health as soon as possible.

HOOKWORMS IN BULACAN

The hookworm campaign that was conducted in the Province of Bulacan from May 9 was not completed till August 11 according to the report of Surgeon Bienvenido Caro, in charge of the campaign. The municipalities surveyed and the hookworm percentage found were as follows: Polo, 12 per cent; Malolos, 39 per cent; Santa Maria, 26 per cent; San Miguel, 20 per cent, and Baliwag, 16 per cent.

A total of 7,361 persons were treated with carbon tetrachloride: 1,621 in Polo, 1,713 in Malolos, 109 in Santa Maria, 1,492 in San Miguel de Mayumo, and 2,426 in Baliuag.

The work became popular thruout the province. The laity passed the word to their parents, relatives, neighbors and friends, and people from Pampanga, Nueva Ecija, Rizal, Batangas, and Manila received treatments at these clinics.

Among other parasites found were the pinworm, whipworm, eelworm, and tapeworm. The largest number of roundworms recovered from any single case in Baliuag was over 200 from a girl eleven years old, while her sister expelled 102 roundworms; the highest hookworm count in Malolos was 440 as compared with 1,600 found in Cebu.

The carbon tetrachloride is an all-around antiparasitic remedy. It also expells all other worms of the body with ease. One case was treated, who expelled two tapeworms.

At present Doctor Caro is conducting a similar hookworm campaign in the Province of Nueva Ecija starting the work at Gapan, after which several central and northern municipalities will also be surveyed.

HOSPITAL FACILITIES IN THE PHILIPPINES

At the end of the year 1922, there were 24 Government hospitals, exclusive of those connected with penal institutions, besides the private industrial hospitals and 18 private hospitals, some of which had been long in existence. These Government hospitals, except two, are under the Philippine Health Service and are scattered all over the different parts of the Philippines. They all provide facilities for indigents as well, and generally serve as bases for the more numerous dispensaries, by means of which the hospital and medical facilities are extended farther out into the interior of the province. But even with the increased number of hospitals and dispensaries, the latter number 900, there has always been a demand for more hospitals.

With the present Hospital Law, the Philippine Health Service takes charge of the establishment of provincial hospitals and a great hope is now being entertained to satisfy fully the hospital needs of the country. On August 14, the Provinces of Nueva Ecija, Rizal, and Pangasinan have been authorized to construct Stage I concrete hospital of eight beds without any Insular aid. The province of Ilocos Sur and Batangas, each will receive an Insular aid of ₱4,020; Occidental Negros, ₱25,000, and Tayabas, ₱36,094.25. The Government will complete its one-half share as soon as it is possible to do so for these provinces which will receive an Insular aid.

The provinces that have requested the Hospital Committee as to the terms and cost of construction and equipment of provincial hospitals according to Doctor Orosa, Acting Chief of the Division of Hospitals, Dispensaries, and Laboratories, are Abra, Albay, Antique, Cagayan, Isabela, La Union, Marinduque, Oriental Negros, Sorsogon, and Zambales. However, a few provinces can only be accommodated this year for lack of fund.

HOOKWORM CLINICS IN BULACAN AND NUEVA ECIJA

Majors Hall and Callender of the Army Medical Research Board, Drs. C. N. Leach of the Rockefeller Foundation and Bantug of the Philippine Health Service, are back today from a flying trip in Bulacan and Nueva Ecija to inspect the hookworm clinics conducted in several municipalities of these provinces.

The party found that 19 per cent of the patients examined in Baliwag had hookworm, and 99 per cent all parasites (which include pinworm, eelworm, tapeworm, and whipworm); in Gapan, hookworm 18 per cent and all parasites 99 per cent. The campaign has recently completed in the latter municipality with a total of 109 carbon tetracholride treatments.

The campaign was begun yesterday at San Isidro in the Province of Nueva Ecija, and 300 preliminary physical examinations were completed up to forenoon.

NATIONAL UNIVERSITY
Manila, P. I.

January 18, 1923

MY DEAR DOCTOR MUNSON:

An editorial in the Herald entitled "Education Gone Mad" starts out with the following sentence: "That is the way Doctor Munson characterizes the situation in Samar where there is not a single hospital, and yet there are about forty concrete school houses."

While all Filipinos are deeply interested in the development of hospitals, it would seem an error of judgment on your part to characterize thus the educational advancement in this country, assuming, of course, that you are correctly reported. I say it is an error of judgment on your part frankly, because I think it would appear that you deplore the construction of permanent schoolhouses. At least, there is nothing to prevent one from concluding that you hold such a view. I further think it is an error of judgment because you seem to ignore that in a country where the Government funds are limited, the thing to do with respect to health and sanitation should be prevention more than cure. Education itself is health work, especially and more directly in so far as the instruction in hygiene and the progress of physical education are concerned. Health work can and should be fostered on its own merits without reflecting upon other worthy activities of the Philippine Government. Any other procedure is unfortunate.

Very sincerely,

CAMILO OSIAS

Col. E. L. MUNSON
C/o Philippine Health Service
Manila, P. I.

MANILA, *January 20, 1923*

Memorandum for the Honorable
The Secretary of Public Instruction

Subject: Correspondence on health and educational matters with Mr. Osias, President of the National University.

In view of the joint relations between health and education discussed in these letters, copies are furnished for your information.

E. L. MUNSON

MANILA, *January 20, 1923*

MY DEAR DOCTOR OSIAS:

Your letter of January 18 interests me greatly.

No one believes more than I do in the value of education. I hold three degrees in course from Yale University, have been a professor in Columbia University, and for six years in my military service have been a member of the faculty of the Army Medical School in Washington, or the Army Service School at Fort Leavenworth. I mention this experience merely to indicate that I should at least have the educators point of view as well as of the physician.

The quotation that was attributed to me is not exactly as I said it. You assume that this quotation is a criticism of the "Educational advancement in this country." This assumption is in error, for the specific example quoted related to Mt. Province of Samar only. Samar has these numerous school houses; Samar gives just 3 (instead of 10) per cent of its provincial funds for health purposes; Samar has not a hospital; Samar has not a dispensary worthy of the name. Any one in grave surgical difficulty in Samar would probably die for lack of even the most basic facilities for the application of surgical knowledge and measures.

You will, I am sure, concede that in order for people to be educated, those people must live. The survival of the body with reasonably good functions is a basic essential on which the training of mind must be founded.

I believe that, in comparison with the training of the mind, the welfare of the body has been under emphasized in such provinces as Samar.

I cannot see how you are able to conclude that I "deplore the construction of permanent schoolhouses." On the contrary, I am enthusiastically for them, but on a basis of proper perspective and common sense. When a province like Samar puts up such schools by dozens and does not make provision in even the most elementary way for the relief of human suffering and the saving of human lives—including lives that have been schooled and educated at public cost—then I think that proper perspective and ability to estimate relative values is locally in abeyance.

You state that I "seem to ignore that in a country where the Government funds are limited the thing to do with respect to health and sanitation should be prevention more than cure." If you contend in favor of this discriminatory proposition, then I am forced to very seriously disagree with you.

You say "education itself is health work, especially and more directly in so far as the instruction in hygiene and the progress of physical education are concerned." This is the natural view point of the educator and with it I entirely agree so far as future generations and years to come are concerned with physical welfare and communicable diseases. But as a doctor who has existing conditions of entirely remediable and too often fatal ailments to meet, I believe that an obligation should fairly be met to meet the present, and day by day physical needs of the existing population. It does not save the life of the father with appendicitis to have his child at school. Let us look at this matter dispassionately and fairly. If Samar has some forty concrete schools and no hospital, then I think that you will doubtless agree that such province would, after all, be really better off if it had but 39 schools and had used funds equivalent to the cost of the fortieth to build and equip at least one hospital.

There are many accidents that are inevitable. There are many diseases due to disordered bodily function that no amount of teaching of school children will avoid. Nor can such teaching be so perfect and far-reaching that ignorance, wilfulness, or indifference will not give us further breakdowns of the human machine. Would you contend that it is only necessary to teach careful driving of automobile to the rising generation in order to render garages and repair shops unnecessary. I believe that a need now actually exists, and always will exist, for both garages and for the human repair shops known as hospitals and dispensaries.

In advocating such reasonable apportionment of public funds, you, I am sure, will not regard me as either unjust or unduly critical.

You conclude by saying that "health work can and should be fostered without reflecting upon other worthy activities of the Philippine Government. This is unfortunate." I agree with you entirely in theory, but we must face facts as they actually exist. The school system and other Government activities have been, and I assert are unduly favored at the expense of health work, which endeavors to preserve the human beings whose existence and good health make these activities possible. Do you realize that in the budgets of 1921, various provinces failed to contribute their quota to health funds in an aggregate amount of ₱260,000? Various reasons were given for not appropriating this amount for health—analyzed, they were all for the purpose of giving these funds to more favored projects, not excepting schools. In the present budgets, the same efforts are being made; and the Governor-General has just issued a Circular stating that such exemptions would no longer be authorized, except in great emergency. Such a sum as the provinces failed to contribute in 1921 to health work would, with the proposed government aid on a fifty-fifty basis, build a modern little hospital in every province in the Islands within half a dozen years.

If it is necessary to the correction of this state of affairs to bring out comparisons with other government activities—and there can be comparisons without these being in any sense reflections upon them—then it seems to me to be a duty to make such comparisons, to make them publicly, and to let the people know the facts. If given these facts, I believe that the sound judgment of the Filipino people may confidently be depended upon to bring out a common-sense solution of this situation.

I very greatly appreciate your letter, for it gives me an opportunity to elaborate in a small way—with what is perhaps a fairly comprehensive knowledge of the situation and with only the general interests of the Filipino people at heart—the reasons which convince me that the need exists for a re-estimate of the basic importance of health work to the people.

I particularly welcome it as coming from such a distinguished leader of thought among the Filipino people as yourself.

We are both interested in the public welfare only. I think we agree entirely on the main proposition that the preservation of human lives and health are, after all, the basis of prosperity and all human activities. And I conceive that the more this fundamental fact is presented to the people, the better and the sooner a situation will be corrected which, to say the least, is lamentable, and which exists because it has been overshadowed by other purposes and activities.

May I ask, therefore, that you publish your letter to me, and this reply thereto, in the National Forum, or such other publication of wide circulation as you may select? Many people would doubtless appreciate the presentation of both sides of this very important matter.

With best personal regards, I am,

Very sincerely yours,

E. L. MUNSON

Dr. CAMILO OSIAS
National University
Manila

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of August, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

AUGUST, 1923

Date	Pressures[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	754.56	26.3	31.1	5	22.6	8	28.5	28.6
11-20	57.06	25.8	32.0	12	22.4	14, 20	28.5	28.6
21-31	57.57	26.3	32.0	31	22.6	24	27.8	27.8

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent.	*Per cent.*		*Per cent.*	
1-10	86.9	97.5	8	70.0	3
11-20	88.1	97.0	Various	69.0	14
21-31	86.1	97.0	Various	62.0	31

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[1] Corrected from instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, AUGUST, 1923—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW	5,082.5	798.0	4	19.2	3.8	2
11-20	SW quad.	2,521.1	427.0	17	19.2	3.4	11,17
21-31	SW quad.	3,092.0	402.0	21	27.7	4.3	27

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	4-25	2-35	5	496.3	9
11-20	31-05	7-25	12	427.5	9
21-31	52-25	10-35	27	223.8	5

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity,—1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above the ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birthrate per 1,000
Americans	5	3	8	30.08
Filipinos	531	498	1,029	43.67
Spaniards	6	2	8	48.21
Other Europeans	....	1	1	10.46
Chinese	25	18	43	28.37
All others	2	7	9	48.51
Total and average	569	529	1,098	42.57

BIRTHS BY DISTRICTS

Health districts—	Legitimates			Illegitimates			Grand total	Annual birth-rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	95	98	193	14	7	21	214	67.48
No. 2, Meisic	98	60	158	7	6	13	171	19.36
No. 4, Sampaloc	104	92	196	7	3	10	206	49.21
No. 5, Tondo	158	190	348	12	9	21	369	53.96
No. 6, Paco	71	58	129	3	6	9	138	49.97
Total	526	498	1,024	43	31	74	1,098	42.57

Number of births attended by physicians, living: 355; stillbirths: 18.
Number of births attended by midwife, living: 121; stillbirths: 1.
Number of births attended by family, living: 622; stillbirths: 18.

NUMBER OF DEATHS AND DEATHRATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual deathrate per 1,000
Americans	2	1	3	11.28
Filipinos	358	349	707	30.00
Spaniards	1	2	3	18.08
Other Europeans	2	1	3	31.89
Chinese	14	5	19	12.54
All Others	1	....	1	5.39
Total and average	378	358	736	28.54

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	101	89
Divorced	....	....
Widowed	24	44
Single	307	259
Condition not stated	5	3
Total	437	395
Grand total	832	

Stillbirths	37
Number of death with medical attendance	393
Number of death without medical attendance	439

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	29	45	....	....	74
30 days to under 1 year	85	73	13	10	181
1 year to under 2 years	43	44	5	6	98
2 years to 4 years	34	42	3	1	80
5 years to 9 years	20	9	3	....	32
10 years to 14 years	4	4	1	....	9
15 years to 19 years	19	9	3	4	35
20 years to 29 years	34	27	12	7	80
30 years to 39 years	24	26	3	1	54
40 years to 49 years	30	18	5	4	57
50 years to 59 years	20	17	3	1	41
60 years to 69 years	22	14	4	1	41
70 years to 79 years	6	12	1	....	19
80 years to 89 years	3	13	1	....	17
90 years to 99 years	5	4	....	2	11
100 years and over	....	1	....	....	1
Age not stated	....	....	....	....	....
Total	378	358	57	37	830

Two (2) males, one American-Negro and one Filipino, 59 and 20 years, respectively, not included in this table.

DEATHS AND DEATHRATE PER 1,000, POPULATION, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	158	49.82
No. 2, Meisic	112	12.68
No. 4, Sampaloc	133	31.77
No. 5, Tondo	345	50.45
No. 6, Paco	84	30.41
Total	832	32.26

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			13	10									23
4. Malaria			1										1
4a. Malarial cachexia			1										1
6. Measles			1	1									2
9. Diphtheria and croup			1										1
10. Influenza			3	1									4
14. Dysentery			7	5					1				13
18. Erysipelas			1										1
19. Other epidemic diseases				1					1				2
20. Purulent infection and septicæmia				1									1
24. Tetanus			1	1									2
27. Beriberi			3	1									4
27a. Beriberi, infantile			30	32						1			63
28. Tuberculosis of the lungs			69	58					3	1	1		132
29. Acute miliary tuberculosis				2									2
30. Tuberculous meningitis			3	5									8
31. Abdominal tuberculosis			3	4									7
34. Tuberculosis of other organs				2									2
35 Disseminated tuberculosis			1	2									3
36. Rickets					1								1
37. Syphilis				1									1
40. Cancer and other malignant tumors of the stomach, liver			1						1				2
42. Cancer and other malignant tumors of the female genital organs				3									3
45. Cancer and other malignant tumors of other organs or organs not specified			4	3									7
48. Chronic rheumatism and gout				3									3
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			8	8									16
63. Other diseases of the spinal cord			1										1
64. Cerebral hæmorrhage, apoplexy			6				1						7
65. Softening of the brain				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense—Ctd.													
66. Paralysis without specified cause			2	1									3
68. Other forms of mental alienation			6										6
71. Convulsions of infants (under 5 years of age)			1	1									2
III. Diseases of the circulatory system													
78. Acute endocarditis			2										2
79. Organic diseases of the heart	1		6	10				1	2				20
80. Angina pectoris		1		1									2
IV. Diseases of the respiratory system													
89. Acute bronchitis			32	25					1				58
90. Chronic bronchitis			7	19		1			2				29
91. Broncho-pneumonia			42	22			1						65
92. Pneumonia			10	4						1			15
94. Pulmonary congestion, pulmonary apoplexy			1										1
V. Diseases of the digestive system													
102. Ulcer of the stomach			1	2									3
104. Diarrhœa and enteritis (under 2 years)			12	16									28
105. Diarrhœa and enteritis (2 years and over)	1		7	12		1							21
106. Ankylostomiasis				1									1
107. Intestinal parasites			1	2									3
108. Appendicitis and typhlitis			2										2
109. Hernias, intestinal obstructions			1	1									2
115. Other diseases of the liver			2	1					1				4
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			6	1									7
120. Bright's disease			12	15									27
122. Other diseases of the kidneys and annexa				1									1

VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
136. Other accidents of labor				1									1
137. Puerperal septicæmia				1									1
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
144. Acute abscess				2									
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart				1									2
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			2	3						2			1
(2) Congenital debility			23	33									7
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			2	2									56
153. Lack of care				1									4
XII. Old age													
154. Senility			8	18									1
XIII. Affections caused by external causes													
157. Suicide by hanging or strangulation			1										26
167. Burns (conflagration excepted)			3										1
169. Accidental drowning			1	1									8
175. Traumatism by other crushing vehicles, railways, landslides, etc			1						1				2
186. Other external violence			1						1				2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			4	3									7
Total	2	1	358	349	1	2	2	1	14	5	1		736
Grand total	3		707		3		3		19		1		736

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2	7					2				11
10. Influenza			1	1									2
14. Dysentery			4	2									6
17. Leprosy			1										1
19. Other epidemic diseases			1										1
27a. Beriberi, infantile			3	3									6
28. Tuberculosis of the lungs			7	3					4				14
35. Disseminated tuberculosis			1										1
41. Cancer and other malignant tumors of the peritoneaum, intestines, rectum				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
46. Other tumors (tumors of the female genital organs excepted)			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis				1									1
64. Cerebral hæmorrhage, apoplexy									1				1
68. Other forms of mental alienation			2										2
74. Other diseases of the nervous sytem			1										1
III. Diseases of the circulatory system													
79. Organic diseases of the heart			1	2					1				4
81. Diseases of the arteries, atheroma, aneurysm, etc	1												1
82. Embolism and thrombosis				1									1
IV. Diseases of the respiratory system													
89. Acute bronchitis			3	4									7
90. Chronic bronchitis			1										1
81. Broncho-pneumonia			1	1									2

V. Diseases of the digestive system													
103. Other diseases of the stomach (cancer excepted)	1												1
104. Diarrhœa and enteritis (under 2 years)			1	2									3
105. Diarrhœa and enteritis (2 years and over)			2										2
108. Appendicitis and typhlitis				1									1
109. Hernias, intestinal obstructions									1				1
110. Other diseases of the intestines			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1										1
120. Bright's disease			1	1					1				3
VII. The puerperal state													
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1	1									2
144. Acute abscess			1										1
XI. Diseases of the early infancy													
151. Congenital debility, icterus and sclerema: (2) Congenital debility			2	2									4
XII. Old age													
154. Senility			1	2									2
XIII. Affections caused by external causes													
172. Traumatism by fall			1										1
186. Other external violence									1				1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			2										2
Total	2		44	37					11				94
Grand total	2		81						11				94

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days under to 1 year	Total
10. Influenza					1	1
14. Dysentery					4	4
18. Erysipelas					1	1
20. Purulent infection and septicæmia					1	1
24. Tetanus				1		
27a. Beriberi, infantile				6	63	69
28. Tuberculosis of the lungs					2	2
35. Disseminated tuberculosis					1	1
61. Simple meningitis:						
(1) Simple meningitis					3	3
71. Convulsions of infants					1	1
78. Acute endocarditis				1		1
89. Acute bronchitis					40	40
90. Chronic bronchitis					9	9
91. Broncho-pneumonia					24	24
92. Pneumonia					5	5
103. Other diseases of the stomach (cancer excepted)					1	1
104. Diarrhœa and enteritis					14	14
110. Other diseases of the intestines					1	1
120. Bright's disease					2	2
144. Acute abscess					1	1
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart	1					1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	4	1		1	1	7
(2) Congenital debility	13	3		1	43	60
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	2			2		4
153. Lack of care					1	1
Total	20	4		12	219	255

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	22,304
Number of rats caught by spring traps	3,630
Number of cage wire traps set	744
Number of rats caught by cage wire traps	3
Number and kind of baits (coconuts)	23,048
Number of poison portions placed	32,153
Number of rats found poisoned	173
Number of rats killed by clubs and other weapons	2,185
Number of rats found dead from other causes	1,178
Total number of rats otherwise caught, found dead or killed	7,169
Total number of rats sent to the laboratory for examination	7,169
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID REPORTED DURING THE MONTH OF AUGUST, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	7	0	20	1	9	0	10	1	6	0	54
Female	2	0	8	0	4	0	6	0	3	0	23
Dead:											
Male	0	0	0	0	1	0	0	2	0	0	3
Female	0	0	0	2	0	0	1	0	0	0	3
Total:											
Male	7	0	20	1	10	0	10	3	6	0	57
Female	2	0	8	2	4	0	7	0	3	0	26
Grand total	9	0	28	3	14	0	17	3	9	0	83

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	2	0	5	0	2	0	2	1	1	0	13
Female	1	0	4	2	1	0	1	0	1	0	10
Total	3	0	9	2	3	0	3	1	2	0	23

Total cases reported within the month in the City of Manila		111
Resident cases	91	
Non-resident cases	20	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		34
Deaths among resident cases	23	
Deaths among non-resident cases	11	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		104
Autopsy	0	
Blood culture	0	
Clinically positive	95	
Fæces	3	
Widal reaction	6	
Confirmed cases as paratyphoid		0
Cases not confirmed		7

Carrier—None

DYSENTERIES REPORTED DURING THE MONTH OF AUGUST, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male:	0	0	0	0	1	0	4	1	0	0	6
Female	1	0	0	0	0	1	2	1	0	0	7
Dead:											
Male	0	0	0	1	0	3	0	1	0	2	7
Female	0	0	0	2	0	0	0	0	0	0	2
Total:											
Male	0	0	0	1	1	3	4	2	0	2	13
Female	1	0	0	2	0	1	2	0	0	2	9
Grand total	1	0	0	3	1	4	6	2	0	4	22

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	2	0	2	0	2	0	2	8
Female	0	0	0	3	0	2	0	0	0	0	5
Total	0	0	0	5	0	4	0	2	0	2	13

Total cases reported within the month in the City of Manila		36
Resident cases	26	
Non-resident cases	9	
Foreign cases	1	
Total deaths reported within the month in the City of Manila		19
Deaths among resident cases	13	
Deaths among non-resident cases	6	
Deaths among foreign cases	0	
Reported as:		
Acute dysentery	7	
Amœbic dysentery	2	
Bacillary dysentery	2	
Chronic dysentery	1	
Dysentery	24	
Erroneously reported as dysentery		0
Total		36

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF JULY, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		2
Non-resident cases	1	
Foreign cases	0	
Resident cases	1	
Resident cases not confirmed as cholera (found negative)	1	
Resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases (confirmed as cholera)	0	
Deaths among resident cases (not confirmed as cholera)	0	

Cholera carriers—2.

DIPHTHERIA REPORTED DURING THE MONTH OF AUGUST, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	3	0	0	0	3
Female	1	0	1	0	0	0	0	0	0	0	2
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	3	0	0	0	3
Female	1	0	1	0	0	0	0	0	0	0	2
Grand total	1	0	1	0	0	0	3	0	0	0	5

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	1	0	0	0	1
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	1

Total cases reported within the month in the City of Manila		6
Resident cases	5	
Non-resident cases	1	
Resident cases confirmed as diphtheria	1	
Resident cases not confirmed	4	
Total deaths reported within the month in the City of Manila		1
Deaths among residents cases (confirmed)	1	
Deaths among non-resident cases	0	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	1	2	0
Varioloid	0	0	0	0
Varicella	0	0	0	0
Smallpox	0	0	0	0
Measles	2	1	1	1
Whooping cough	0	0	0	0
Influenza	8	5	3	1
Bubonic plague	0	0	0	0
Beriberi	4	3	3	1
Beriberi, infantile	30	33	30	33
Pulmonary tuberculosis	107	86	73	61
Tuberculosis of all forms	9	13	7	13
Encephalitis lethargica	1	0	1	0

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1923—Continued

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	1	0	0	0
Varioloid	0	0	0	0
Varicella	0	0	0	0
Smallpox	0	0	0	0
Measles	1	1	0	0
Whooping cough	0	0	0	0
Influenza	4	1	1	1
Bubonic plague	0	0	0	0
Beriberi	0	1	0	0
Beriberi, infantile	3	3	3	3
Pulmonary tuberculosis	[a]24	10	[a]12	3
Tuberculosis of all forms	1	0	1	0
Encephalitis lethargica	1	0	1	0

[a] One permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF AUGUST, 1923

Sera and vaccines	On hand April 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diptheric serum (units)	591,000	800,000	1,391,000	120,000	1,271,000
Anti-dysenteric serum (ampoules)	58	150	208	187	71
Anti-tetanic serum (units)	500,000	61,000	561,000	61,000	500,000
Cholera vaccine (c.c.)	8,795	15,000	23,795	15,520	8,275
Dried vaccine virus (units)	4,750	32,000	36,750	36,200	550
Fresh vaccine virus (units)	134,900	200,000	334,900	230,900	104,000
Gonococcus vaccine (ampoules)	....	100	100	100	....
Mixed cholera-typhoid vaccine (c.c.)	1,260	84,250	85,510	79,620	5,890
Normal horse serum (ampoules)	....	100	100	100	....
Typhoid vaccine (c.c.)	5,190	40,560	45,750	40,760	4,990

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4		5 years and over		Total	
		Positives	Negatives	Positives	Negatives	Positives	Negatives	Positives	Negatives
No. 1, Intramuros	552	138	8	30	59	....	....	168	67
No. 2, Meisic	1,281	153	13	165	113	....	....	318	126
No. 4, Sampaloc	864	172	4	42	32	....	....	214	36
No. 5, Tondo	656	379	19	107	68	....	....	486	87
No. 6, Paco	239	116	12	72	74	....	....	188	86
Total	3,592	958	56	416	346	....	....	1,374	402

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros					547	892
No. 2, Meisic					1,120	2,287
No. 4, Sampaloc					460	1,605
No. 5, Tondo	565	2,513	223	1,052	235	2,738
No. 6, Paco					89	34
Div. of Communicable Diseases					1,217	161
Total	565	2,513	223	1,052	3,668	7,717

Districts	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros					544	524			2,507
No. 2, Meisic					1,048	1,905			6,360
No. 4, Sampaloc					208	1,412			3,685
No. 5, Tondo	244	1,958	149	987	515	2,923	5,280	2,411	6,411
No. 6, Paco					28	14			165
Div. of Communicable Diseases					435	197			2,010
Total	244	1,958	149	987	2,778	6,975	5,280	2,411	21,138

NOTE.—A, persons of 15 and over 15 years of age. C, below 15 years of age.
For first and second injections see MIXED (TYPHOID AND CHOLERA) VACCINATION table.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	1,359	282	409	355	....	....
No. 2, Meisic	1,638	2,778	1,652	2,881	....	....
No. 4, Sampaloc	763	1,166	609	1,225	....	....
No. 5, Tondo	....	....	....	....	....	....
No. 6, Paco	146	114	106	34	....	....
Div. of Communicable Diseases	2,261	298	1,598	199	....	....
Total	6,167	4,638	4,374	4,694	....	....

Districts	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	693	169	744	329	....	....	2,503	1,837	....
No. 2, Meisic	1,250	2,358	1,345	3,231	....	....	8,024	9,109	....
No. 4, Sampaloc	326	1,079	393	1,194	....	....	3,334	3,421	....
No. 5, Tondo	....	....	....	....	....	....	....	....	....
No. 6, Paco	88	69	36	13	....	....	417	189	....
Div. of Communicable Diseases	868	388	625	334	....	....	3,815	2,756	....
Total	3,225	4,063	3,143	5,101	....	....	18,093	17,312	....

NOTE.—A, persons of 15 and over 15 years of age. C, below 15 years of age. Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Total vaccinations[2]	Inspection of persons vaccinated			
		Under 1 year[3]		1 year to 4[3]	
		Positive	Negative	Positive	Negative
Abra	4,092	156	55	318	224
Agusan	2,606				
Albay	71,571	3,129	1,094	6,256	2,226
Antique	8,082	1,238	362	1,588	760
Bataan	13,146	298	115	1,332	523
Batanes	1,228	17	8	77	29
Batangas	89,398	1,409	139	3,682	968
Bohol	20,879	983	409	2,483	926
Bukidnon	4,061	1	1	6	3
Bulacan	27,229	812	104	1,000	310
Cagayan	11,909	756	53	1,367	220
Camarines Norte	1,776	340	157	213	130
Camarines Sur	11,218	585	318	976	457
Capiz	11,942	340	109	439	105
Catanduanes	6,426	730	319	402	399
Cavite	17,968	1,128	146	1,637	485
Cebu	53,909	5,130	2,392	4,127	2,443
Cotabato	10,815	102	95	368	490
Culion Leper Colony	43				
Davao	9,177				
Ilocos Norte	15,613	1,198	411	2,022	1,413
Ilocos Sur	28,983	2,050	454	4,319	1,833
Iloilo	25,060	1,577	321	2,342	800
Isabela	6,067	197	150	771	619
Laguna	24,809	1,194	287	2,298	580
Lanao	6,189	88	38	337	212
La Union	9,898	374	192	544	529
Leyte	63,411	268	107	927	147
Marinduque	5,979	215	109	649	433
Masbate	5,299	47	24	304	155
Mindoro	8,117	336	193	793	497
Misamis	10,209	767	679	1,642	1,221
Mountain Province	7,331	127	80	171	140
Nueva Ecija	13,312	2,352	670	772	641
Nueva Vizcaya	3,865	259	39	436	78
Occidental Negros	18,324	1,007	440	1,000	595
Oriental Negros	67,602	1,882	1,286	5,108	4,690
Palawan	3,515				
Pampanga	20,112	1,798	315	2,166	674
Pangasinan	55,289	7,398	1,768	7,627	2,532
Rizal	19,840	1,889	374	2,589	815
Romblon	2,665				
Samar	10,784	470	163	960	476
Sorsogon	6,946	743	250	710	288
Sulu	6,639	250	68	683	324
Surigao	7,830	159	97	1,188	686
Tarlac	95,695	1,029	112	3,752	611
Tayabas	17,641	1,530	571	1,843	738
Zambales	5,323	296	129	486	177
Zamboanga	11,633	457	304	416	325
Total	961,455	47,111	15,507	73,126	32,927

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[1] Compilation of reports received up to August 31.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincal Form No. 70.

Other reports not received.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923 [1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [3]		Total [2]	
	Positive	Negative	Positive	Negative
Abra	728	822	1,989	1,662
Agusan	....	....	154	70
Albay	17,490	7,985	30,210	15,184
Antique	1,211	1,324	4,037	2,446
Bataan	748	372	5,555	2,650
Batanes	491	254	670	340
Batangas	7,232	11,343	30,970	31,109
Bohol	4,459	2,348	12,866	5,670
Bukidnon	92	154	976	1,518
Bulacan	3,972	2,081	14,177	6,126
Cagayan	664	207	8,521	1,827
Camarines Norte	283	376	989	714
Camarines Sur	1,266	879	5,742	3,372
Capiz	1,408	746	7,108	3,215
Catanduanes	361	678	2,299	1,983
Cavite	1,825	1,237	10,501	5,735
Cebu	3,404	2,809	23,055	14,314
Cotabato	1,469	2,183	1,919	2,768
Culion Leper Colony	....	....	18	25
Davao	....	....	4,037	4,240
Ilocos Norte	2,283	3,741	6,879	7,171
Ilocos Sur	5,579	3,584	15,122	7,786
Iloilo	2,752	941	10,782	2,482
Isabela	866	1,006	2,077	2,508
Laguna	2,024	1,737	11,462	9,150
Lanao	685	574	2,115	1,380
La Union	586	1,929	2,781	4,621
Leyte	3,280	827	30,143	8,225
Marinduque	1,979	1,561	2,843	2,108
Masbate	753	1,057	1,142	1,282
Mindoro	981	647	3,079	2,292
Misamis	1,832	1,210	4,241	3,110
Mountain Province	347	340	2,653	1,636
Nueva Ecija	504	626	6,028	4,998
Nueva Vizcaya	569	199	2,947	794
Occidental Negros	1,137	686	9,648	5,610
Oriental Negros	11,281	13,217	25,901	24,286
Palawan	....	....	2,901	1,108
Pampanga	1,226	920	7,680	2,978
Pangasinan	10,919	5,594	33,632	13,466
Rizal	2,656	2,580	7,660	4,354
Romblon	....	....	814	402
Samar	1,328	1,181	4,302	2,589
Sorsogon	893	392	3,129	1,686
Sulu	667	427	3,695	2,072
Surigao	1,186	721	3,380	2,727
Tarlac	6,996	6,057	41,424	29,325
Tayabas	3,028	1,521	10,473	4,197
Zambales	1,023	1,188	2,742	2,486
Zamboanga	321	534	3,420	5,253
Total	114,784	90,795	430,388	267,980

[1] Compilation of reports received since January up to August 31.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Province	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C
Albay	4,769	2,775	119	20		
Batangas	619	621	25			
Bulacan	73	121				
Capiz	455	235	196	90		
Cebu	305	339	220	86		
Isabela	45	43	9	15		
Laguna	59	116	3			
Misamis	34	81				
Oriental Negros	53	55	44	72		
Pampanga	87	78	13	7		
Pangasinan	160	87	60	17		
Rizal	56	7	22	3		
Sorsogon	528	303	185	129		
Tayabas	408	318	21	2		
Zambales	171	73	149	64		
Total	7,822	5,252	1,066	505		

Province	Number of persons vaccinated						Total number of persons injected.		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	4,334	2,292	178	88			14,170	405	
Batangas	824	530					2,594	25	
Bulacan	68	45					307		
Capiz	278	160	66	40			1,128	392	
Cebu	189	209	141	99			1,042	546	
Isabela	19	29	8	11			136	43	
Laguna	36	69					280	3	
Misamis	30	29					174		
Oriental Negros	63	42	47	64			213	227	
Pampanga	85	60	5	4			260	29	
Pangasinan	103	80	54	12			430	143	
Rizal	43	8	4	1			114	30	
Sorsogon	390	206	119	76			1,427	509	
Tayabas	319	282	8	13			1,327	44	
Zambales	134	69	115	62			447	390	
Total	6,865	4,110	745	470			24,049	2,786	

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[1] Compilation of reports received up to August 31, 1923.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.
Other reports not yet received.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Province	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	4	14	5	24	40	107
Albay	355	23	237	8	13	3
Antique	139	110	87	118	17	6
Batangas	51	15	30	6	......	......
Bulacan	290	172	162	83	125	43
Camarines Sur	222	68	35	21	8	3
Capiz	12	3	......	......	......	......
Catanduanes	178	44	123	31	......	......
Cavite	74	5	4	......	6	6
Cebu	72	52	38	......	......	......
Ilocos Sur	1,469	329	877	175	690	364
Isabela	28	40	3	26	......	......
Laguna	368	88	194	60	86	45
Nueva Ecija	8	......	......	......	......	......
Oriental Negros	47	13	49	......	11	......
Pampanga	1,815	1,345	1,356	797	595	418
Pangasinan	1,536	1,194	1,116	828	894	691
Rizal	516	144	346	65	141	41
Tayabas	108	31	43	......	......	......
Zambales	1,182	1,132	1,106	889	961	812
Total	8,474	4,822	5,811	3,131	3,587	2,539

Province	Number of persons vaccinated						Total number of persons injected.		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	4	22	4	41	23	99	44	74	269
Albay	218	26	178	22	19	8	622	445	43
Antique	61	46	74	37	13	5	356	316	41
Batangas	69	30	22	5	......	......	165	63	......
Bulacan	315	170	177	86	135	43	947	508	346
Camarines Sur	152	91	43	14	7	4	533	113	22
Capiz	1	......	......	......	......	......	16	......	......
Catanduanes	67	47	47	19	......	......	336	220	......
Cavite	9	1	1	......	......	1	89	5	13
Cebu	57	35	32	......	......	......	216	70	......
Ilocos Sur	983	376	808	186	486	244	3,157	1,046	1,784
Isabela	21	32	12	16	......	......	121	57	......
Laguna	261	112	176	62	62	39	829	492	232
Nueva Ecija	3	......	5	......	......	......	11	5	......
Oriental Negros	29	13	22	7	15	7	102	78	33
Pampanga	1,773	1,192	1,207	741	523	436	6,125	4,101	1,972
Pangasinan	1,180	1,097	915	769	784	640	5,007	3,628	3,009
Rizal	419	160	267	76	129	31	1,239	754	342
Tayabas	78	28	25	1	......	......	245	69	......
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	6,838	4,490	5,119	2,898	3,204	2,318	24,624	16,959	11,648

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[1] Compilation of reports received up to August 31, 1923.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.
Other reports not yet received.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Province	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	107	44	63	287	...	...
Antique	352	243	343	210	32	25
Bataan	284	31	120	16	...	...
Batanes	68	8	11	2	...	...
Batangas	467	242	242	72	...	...
Bohol	195	25	215	6	...	...
Bulacan	14	2	14	2	14	2
Cagayan	481	516	167	20	...	...
Camarines Norte	326	46	134	17	...	...
Camarines Sur	823	225	104	48	...	...
Capiz	10	...	4	...	...	...
Cavite	327	49	149	10	...	...
Cebu	340	63	40	23	...	...
Cotabato	199	104	...	...	...	...
Davao	258	10	246	10	...	...
Ilocos Norte	1,397	813	709	205	...	...
Ilocos Sur	1,273	331	253	136	91	73
Iloilo	784	516	1,016	506	...	...
Isabela	121	28	3	...	...	...
Laguna	126	53	32	52	...	...
Lanao	40	15	5	8	...	...
La Union	747	470	363	140	...	...
Leyte	18	2	31	10	...	...
Marinduque	588	322	374	297	...	...
Masbate	357	188	282	91	...	...
Mindoro	246	101	89	21	22	...
Misamis	526	411	271	213	...	11
Nueva Ecija	456	190	428	177	115	23
Nueva Vizcaya	215	170	349	148	15	35
Oriental Negros	231	129	35	40	...	...
Pampanga	846	562	349	188	...	...
Pangasinan	416	213	320	180	...	...
Rizal	1,677	914	1,033	706	...	...
Sulu	113	254	18	85	...	...
Surigao	26	...	96	...	...	...
Tarlac	906	554	335	283	...	...
Tayabas	1,132	402	282	59	...	...
Zamboanga	44	8	...	...	...	...
Total	16,486	8,254	8,475	4,268	289	169

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[1] Compilation of reports received up to August 31, 1923.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.
Other reports not yet received.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923—Continued

Province	Number of persons vaccinated						Total number of persons injected.		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	57	64	51	256	......	......	272	657	......
Antique	348	256	198	189	10	34	1,199	940	101
Bataan	222	54	103	25	......	......	591	264	......
Batanes	55	5	16	3	......	......	136	32	......
Batangas	522	246	273	112	......	......	1,477	699	......
Bohol	82	41	97	9	......	......	343	327	......
Bulacan	7	......	7	......	7	......	28	23	23
Cagayan	204	361	158	102	......	......	1,512	447	......
Camarines Norte	191	25	124	18	......	......	588	293	......
Camarines Sur	601	174	111	65	......	......	1,823	328	......
Capiz	8	......	......	......	......	......	18	4	......
Cavite	124	27	120	10	......	......	527	289	......
Cebu	144	50	47	24	......	......	597	134	......
Cotabato	133	80	......	......	......	......	516	......	......
Davao	9	7	9	7	......	......	284	272	......
Ilocos Norte	1,193	867	345	209	......	......	4,270	1,468	......
Ilocos Sur	849	288	234	128	82	91	2,741	751	337
Iloilo	579	418	606	403	......	......	2,297	2,531	......
Isabela	8	22	......	......	......	......	179	3	......
Laguna	56	13	16	55	......	......	248	155	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	677	351	302	133	......	......	2,245	938	......
Leyte	11	3	15	7	......	......	34	63	......
Marinduque	424	302	351	449	......	......	1,636	1,471	......
Masbate	148	175	105	94	......	......	868	572	......
Mindoro	175	103	68	46	2	......	625	224	21
Misamis	350	305	131	109	1	3	1,592	724	15
Nueva Ecija	340	168	303	154	70	8	1,154	1,062	216
Nueva Vizcaya	146	157	154	144	3	33	688	795	86
Oriental Negros	211	95	66	51	......	......	666	192	......
Pampanga	955	573	498	232	......	......	2,936	1,267	......
Pangaisnan	414	261	338	216	......	......	1,304	1,054	......
Rizal	1,457	691	976	548	......	......	4,739	3,263	......
Sulu	87	170	29	75	......	......	624	207	......
Surigao	26	......	51	......	......	......	52	147	......
Tarlac	657	518	258	258	......	......	2,635	1,134	......
Tayabas	812	343	160	39	......	......	2,689	490	......
Zamboanga	18	7	......	......	......	......	77	......	......
Total	12,303	7,221	6,323	4,170	175	169	44,264	23,236	802

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF AUGUST, 1923

NO CASE; NO DEATH REPORTED DURING THE MONTH

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF AUGUST, 1923

Provinces and towns	Cases	Deaths
Bulacan:		
Malolos	2	2
Mindoro:		
Calapan	1	....
Total	[1]3	[1]2

NOTE: [1] All suspects.

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF AUGUST, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending July, 1923:						
Minor	27	8	16	29	15	95
Sewer	10	38	15	5	5	73
Vacating		13	7	2	2	24
Filling	5	2	13	5	4	29
Total	42	61	51	41	26	221
Orders issued during the month:						
Minor	8	15	9	1	60	93
Sewer		19	3	5		27
Vacating						
Filling						
Total	8	34	12	6	60	120
Grand total	50	95	63	47	86	341
Orders completed during the month:						
Minor	6	4	3	3	5	21
Sewer	1		1	1		3
Vacating			1			1
Filling			1			1
Total	7	4	6	4	5	26
Orders cancelled during the month:						
Minor	1					1
Sewer						
Vacating						
Filling						
Total	1					1
Orders pending during the month:						
Minor	28	19	22	27	70	106
Sewer	9	57	17	9	5	97
Vacating		13	6	2	2	23
Filling	5	2	12	5	4	28
Total	42	91	57	43	81	314
Strong material plans approved:						
New buildings including additions and alterations	13	14	17	20	11	75
Permits for minor building constructions:						
Approved	16	18	20	19	16	89
Disapproved	1	5	4	10	4	24
New buildings completed	19	11	10	17	6	63
Light and mixed material constructions:						
Permits approved			20	15	18	53
Permits disapproved			2	1	5	8
Total number of building projects passed upon	49	48	73	82	60	312
Prosecutions:						
Convictions			2			2
Dismissals	1		2			3
Amount of fines			₱20.00			₱20.00
Plumbing permits issued	29	31	16	21	9	106
Plumbing projects completed	20	15	18	16	2	71
Premises connected to the Sanitary Sewer to July, 1923	1,680	2,846	1,070	572	418	6,586
Premises connected during August, 1923	2	2	2			6
Total	1,682	2,848	1,072	572	418	6,592

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Sta. Mesa.
Paco includes Pandacan and Santa Ana.

APR 22 1924

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III SEPTEMBER, 1923 No. 9

I hold the unconquerable belief that science and peace will triumph over ignorance and war, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.

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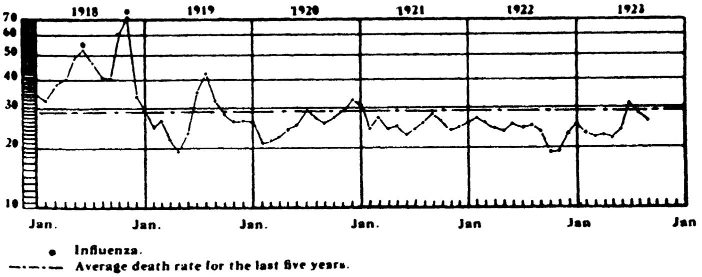

MANILA
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1923

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COMMITTEE ON THE MONTHLY BULLETIN, P. H. S.

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M. V. Arguelles, *Senior Surgeon, P. H. S., Secretary*

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III SEPTEMBER, 1923 No. 9

DEL CARMEN, PAMPANGA, *June 9, 1923*

The DIRECTOR OF HEALTH
Manila, P. I.

SIR:

I have the honor to submit herewith the report of the malaria investigation that was conducted in the sugar-cane plantations of La Mitra and San Jose of the municipality of Dinalupihan, Bataan, and in Hatcher's Place and Smith, Bell & Company's plantations in the municipalities of Lubao and Floridablanca respectively, in the Province of Pampanga.

It may be seen that no investigations along the line of treatments were instituted and the work was purely investigative in character in accordance with your telegram of February 27, 1923. It may be seen, further, that this report only includes the results of the medical investigations that were assigned to the undersigned.

It is recommended, however, that in future malaria investigations, experiments on the malaria treatment be also included in the program; and that copies of this report be sent to the District Health Officers of Pampanga and Bataan for their information and guidance.

Very sincerely yours,

TEOFILO CORPUS
In charge, Malaria Campaign

MALARIA INVESTIGATION IN PAMPANGA AND BATAAN PROVINCES

By TEOFILO CORPUS

Medical Inspector, Philippine Health Service

In accordance with the telegram of the Director of Health on February 27, 1923, the malaria work in the Provinces of Pampanga and Bataan, in coöperation with the Rockefeller Foundation, was investigative in character and no malaria treatments were instituted.

The malaria survey was made in the sugar-cane plantations of La Mitra and San Jose of the municipality of Dinalupihan, Bataan, and in Hatcher's and Smith, Bell & Company sugar-cane plantations of the municipalities of Lubao and Floridablanca, Pampanga, respectively.

In the survey, the health personnel of the Provinces of Pampanga and Bataan lent us a close coöperation. They worked by turns at weekly intervals. Each party was composed of two presidents of sanitary divisions, one nurse and two sanitary inspectors. The survey lasted from February 26 to June 9, 1923.

In the field work, a house-to-house visit was made to determine the *modus vivendi* and the sanitary condition of the dwellings. A particular study was given to the construction of the floors, windows, and roofs of houses, toilets, ever-crowding conditions, the use of mosquito nets, and the source and condition of the drinking water, including a study of the weight and height of each individual person.

The plantations provide very improper houses for the laborers. These houses are usually built on a high altitude near the mountains, rivers, and brooks, and the rooms are often crowded during the milling period. The drinking water is usually kept in uncovered tin-cans or in earthern jars without faucets, a condition which is favorable to mosquito breading. Several toilets of the pit system are used in some cases, but persons were found disposing their excreta on the brook and river banks, sugar-cane fields, and in the bushes.

The plantations have, practically, all the control of the foodstuffs consumed by the laborers. The laborers usually get these materials from the stores of the plantations on credit, and pay for them at every end of the week when they draw their weekly salary. The store keeps few vegetables, dried and salted fish ("toyo," "tinapá," "dilis," "bagong," "sap-sap") and canned salmon and sardines. These are the only food materials available every day, and only very occasionally do the laborers get fresh fish outside.

All the laborers are subject to strict working regulations and to long hours of work. They begin their work at 5 o'clock every day except Sunday, have a little rest of one hour for lunch at noon, and stop at 5 in the afternoon. Evidently, there is an excessive labor with rather insufficient alimentation, so that the resistance of individual laborers is so lowered as to favor the invasion of malaria.

Quinine is freely distributed at this place. The sanitary inspectors and hospital attendants of the plantations make their daily rounds for the detection of sick persons. Once a person with chill and fever is found, he is given quinine in his own house or in the small isolation hospital. It was noted, however, that a certain percentage of laborers dislike to take quinine.

As a general routine work, the blood specimens were sent to the laboratory at Del Carmen where they were stained and examined for malaria parasites under the supervision of Sanitary Engineer W. D. Tiedeman of the Rockefeller Foundation.

Table I shows a total of 1,423 persons examined, of whom 978, or 68.7 per cent, were males and 445, or 31.3 per cent, were females. La Mitra and Smith Bell plantations have the biggest number of people.

TABLE I.—*Number of examinations classified by sex*

Places	Males		Females		Total	
		P. ct.		*P. ct.*		*P. ct.*
La Mitra	332	69	151	31	483	34
San Jose	130	60	86	40	216	15
Hatcher's	139	64	78	36	217	15
Smith Bell's	377	74	130	26	507	36
Totals	978	68 7	445	31.3	1,423	100

Table II shows a classification of the population by ages. It may be seen that 1,058, or 74.3 per cent, of the population was between 16 and 60 years old, evidently of the laboring age.

TABLE II.—*Number of examinations classified by age*

Age	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Less than 1 year	8	1.7			1	0.5			9	0.6
1–5 years	20	4.1	15	7	19	9.0	13	2.5	67	4.7
6–15 years	62	12.8	70	32	46	21.0	86	17.0	264	18.6
16–30 years	267	55.2	91	42	110	50.5	296	58.0	764	53.6
31–60 years	114	23.6	36	17	39	18.0	105	21.0	294	20.7
More than 60 years	9	1.9	4	2	1	0.5	7	1.5	21	1.5
Age unreported	3	0.6			1	0.5			4	0.3

Table III shows a classification of the civil status of laborers. A total of 888, or 62.4 per cent, are single and 197, or 37.2 per cent, are married.

TABLE III.—*Classification of the civil status of laborers*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Single	286	59.2	144	66.5	149	69	309	60.9	888	62.4
Married	194	40.2	71	33	68	31	197	38.9	530	37.2
Civil status not reported	3	0.6	1	0.5			1	0.2	5	0.4

Table IV shows the number and percentages of permanent and seasonal residents in the surveyed localities. In Hatcher's sugar-cane plantation and San Jose, 158 or 75 per cent, and 157 or 72 per cent, respectively, are permanent residents, while in La Mitra, 138 or 28.7 per cent are seasonable residents with houses in the vicinity, and 149 or 30.7 per cent, with remote houses; and in Smith Bell's sugar-cane plantation, 120 or 25 per cent are seasonable residents with houses in the vicinity and 251 or 50 per cent, with remote houses. A total of 646 or 45.4 per cent were permanent residents, and 775 or 54.5 per cent, seasonal.

Permanent residents are mostly from Pampanga and Bataan, and the seasonal residents are from Ilocos Norte, Ilocos Sur, La Union, Pangasinan, Zambales, and Tarlac.

As may be seen, a greater bulk of the population is made up of seasonal residents. These people, not being adopted to the condition of these places, are susceptable to the disease.

In these places, just at the time when the sugar cane needs most attention, chills and fever keep a large number of laborers from work. The hacienda record shows that each individual laborer loses about one-third of his labor hours throughout all of his working time.

TABLE IV.—*Number and percentage of permanent and seasonal resident in the surveyed localities*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Permanent residents	194	40.2	158	75	159	72	136	27	646	45.4
Seasonal with houses in the vicinity	138	28.7	45	21	39	18	120	24	341	24.0
Seasonal with houses remote	149	30.7	13	6	21	10	251	49	434	30.5
Residence unreported	2	0.4							2	0.1

Table V shows the ocupations of the workers. It further shows that field workers make up most of the population. The field work consists in cutting sugar cane, cutting points, weeding, and plowing. The indoor workers also include, besides the housewives, the cook, office clerks, store-keepers, property clerks, carpenters, hospital attendants, and sanitary inspectors.

The laborers usually work during the day only, altho a few work at night also when it is necessary for the cutting and loading of sugar cane; so that these persons are often exposed to the bites of mosquitoes.

A total of 1,056, or 74.2 per cent, field workers were found, of whom 154, or 11 per cent, indoor workers including housewives, and 201, or 14 per cent, non-workers including children.

It is evident that all these laborers are poor, with the exception of a few clerks and managers in the sugar-cane plantations; so that the preparation of a table of the economic status of the population was not attempted as previously planned.

TABLE V.—*Occupations at laborers in the surveyed localities*

Occupation	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Field workers	362	74.9	123	57	162	74.5	409	80.5	1,056	74.2
Indoor workers (including housewives)	59	12.3	30	14	21	10	44	9.0	154	11.0
Non-workers (including children)	62	12.8	55	25	33	15	51	10.0	201	14.0
Occupation unreported			8	4	1	0.5	3	0.5	12	0.7

Table VI shows a compilation of malaria history as obtained among the population of the localities. Only 471 or 33 percent had no history of malaria; 724 or 51 per cent have had malaria at this place; 192 or 13.5 per cent have had malaria at former residence; and 17, or 1.2 per cent have had malaria at both places. A total of 434, or 67.3 per cent were permanent residents who have had malaria at this place.

TABLE VI.—*Compilation of malaria histories among the population of the Localities*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
No history of malaria	217	44.9	51	23.5	131	60	72	14	471	33.0
Have had malaria at this place	241	49.9	141	65.0	71	33	271	54	724	51.0
Have had malaria at former residence	25	5.2	5	2.5	13	6	149	29	192	13.5
Have had malaria at both places	......	......	1	0.5	1	0.5	15	3	17	1.2
Malaria history unreported	......	......	18	8.5	1	0.5	......	......	19	1.3
Permanent residents having had malaria at this place	137	70.6	121	76.0	67	43	109	80	484	67.3

Table VII shows the distribution of quinine in the surveyed localities. A total of 751 or 53 per cent had received quinine once or oftener; 174 or 12 per cent were sick but had not received quinine treatment; and 467 or 33 per cent had not had quinine because of not having had malariȧ.

It is evident that quinine is freely distributed in these localities. This is probably the reason why we failed to find parasites in some other patients whose symptoms did not differ from those of the cases in which parasites were present.

In a malarious place, a person complaining of a little "chill" or "occasional shivers" or as of being "out of sorts," of course with a little fever, headache, weakness, dyspepsia, and an unusual sweating at night, in all probability, is a case of malaria. Persons may complain of occasional vomiting, diarrhea, dysentery, or of rheumatic pains, and yet be true malaria cases. To cite a specific case, we had a case in Floridablanca who came to us with 20–30 bowel movements a day, with, of course, a clear history of malaria. Blood examinations showed malaria parasites in the blood. Quinine treatments reduced the bowel movements in three days, and the patient was cured completely in ten days.

TABLE VII.—*Distribution of quinine in the surveyed localities*

	La Mitra		San José		Hatcher's		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Those that received quinine	214	44	128	59.25	68	31	341	67.4	751	53
Those that had not received quinine and were sick	53	11	19	8.81	14	6	88	17.5	174	12
Those that had not received quinine because they were not sick	207	43	51	23.61	132	62	77	15.0	467	33
Not reported	9	2	18	8.33	3	1	1	0.1	31	2

Table VIII shows the sleeping conditions of laborers. Only 62 or 4.3 per cent sleep on beds; 1,357 or 95.4 per cent sleep on the floor. A total of 185 or 13 per cent use mosquito-nets and 1,196 or 84 per cent do not use mosquito-nets.

It may be seen that only a few persons sleep on the floor and use mosquito-nets. The mosquito-nets in use were made of "abaca," cotton, or *chambray*. The neglect of the use of mosquito-nets, of course, favored the existence of malaria at this place.

TABLE VIII.—*Classification of sleeping conditions of laborers*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Sleep on beds	19	4.0	3	1.5	2	1	38	7.5	62	4.3
Sleep on the floor	462	95.6	213	98.5	213	98	469	91.5	1,357	95.4
Unreported	2	0.4	......	......	2	1	......	......	4	0.3
Use mosquito-nets	62	12.8	41	19.0	26	12	56	11.0	185	13.0
Do not use mosquito-nets	419	86.8	171	79.0	189	87	417	82.0	1,196	84.0
Use of nets not reported	2	0.4	4	2.0	2	1	34	7.0	42	3.0

Table IX shows the splenic index. A total of 439 or 30.9 per cent had enlarged spleens and 806 or 56.6 per cent had not enlarged spleens.

In Hatcher's sugar-cane plantation, the healthiest place surveyed, only four or 2 per cent had enlarged spleens. In La Mitra, San Jose and Smith Bell's, 147 or 30.5 per cent, 103 or 48 per cent, and 185 or 36.5 per cent were found with enlarged spleens, respectively.

TABLE IX.—*The splenic index*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Spleen enlarged	147	30.5	103	48	4	2.0	185	36.5	439	30.9
Spleen not enlarged	302	62.5	107	49	208	95.5	189	37.0	806	56.6
Unreported	34	7.0	6	3	5	2.5	133	26.5	178	12.5

Table X shows the hemoglobin percentage. Only 354 or 25 per cent had a hemoglobin percentage below 75 per cent, 332 or 23.3 per cent at 75 per cent, and 675 or 47.4 per cent above 75 per cent.

In La Mitra, where 39 per cent of the inhabitants were infected with malaria, only 139 or 28.8 per cent had a hemoglobin percentage below 75. On the other hand, in Hatcher's sugar-cane plantation where only 14.2 per cent were malaria positive, 128 or 59 per cent had a hemoglobin percentage below 75. So that it may be stated that the low hemoglobin index might not have been due to the malaria parasites present in the blood alone but to exhausting labor, malnutrition, and under-feeding, as the food consisted mostly of rice, dried fish, and canned salmon and sardines. A better diet will perhaps increase the hemoglobin percentage.

It has been noticed that females have usually a lower hemoglobin index than do males. Pregnant women have a hemoglobin percentage lower than 60, probably because of the hydremic condition of the blood. The ages betwten 16 and 30 showed the highest hemoglobin index.

TABLE X.—*The hemoglobin percentage (tallquist)*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Below 75	139	28.8	45	21	128	59	42	8.3	354	25.0
At 75	122	25.3	59	27	37	17	114	22.5	332	23.3
Above 75	171	35.4	108	50	46	21	350	69.0	675	47.4
Hb. unreported	51	10.5	4	2	6	3	1	0.2	62	4.36

Table XI shows the number and percentage of lung examinations. A total of 1,106 or 78 per cent were found to have normal lungs, and 49 or 3.4 per cent had probably diseased lungs.

TABLE XI.—*Number and percentage of lung examination*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Normal	395	81.8	184	85	213	98.0	314	62.0	1,106	78.0
Probable diseases	32	6.6	13	6	1	0.5	3	0.5	49	3.4
Condition unreported	56	11.6	19	9	3	1.5	190	37.5	268	18.6

Table XII shows the parasite index. A total of 272 or 22 per cent were found positive, and 959 or 78 per cent, negative.

La Mitra was most heavily infected, with 39 per cent, resulting: San Jose, 21 per cent; Smith Bell, 16.5 per cent; Hatcher's place, 14.2 per cent. It was once believed that infection was higher in these places, but because of the free distribution of quiuine, it has remained low, since a single dose of quinine occasionaly causes most of the parasites to disappear from the peripheral blood; and in blood films from patients who have received several doses, one very probably would not be able to find parasites, but he might find other evidenes indicating the presence of the disease.

In negative blood findings when signs and symptoms point to cases of malaria, there is usually a decrease of polymorpheunuclear leuco cytes from 70 per cent to 50 per cent; increase of mono-nuclear leucocytes, from 20 per cent to 40 per cent or even 50 per cent; and the presence of macrophages and degenerated leucocytes.

TABLE XII.—*The parasite index*

	La Mitra		Hatcher		San Jose		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Positive	118	39	27	14.2	45	21	82	16.5	272	22
Negative	211	61	163	85.8	169	79	416	83.5	959	78
Not examined	154	31.9	27	12.4	2	0.9	9	17.8	192	13.5

Table XIII shows the percentage distribution of the different types of malaria. A total of 168 or 62 per cent were plasmodium vivax, 54 or 20 per cent plasmodium malaria, 47 or 17 pr cent plasmodium falciparum, and three or 11 per cent mixed plasmodium vivax and plasmodium malaria.

In San Jose, 80 per cent were plasmodium vivax; La Mitra 25 per cent were plasmodium malaria; and in Smith Bell 27 per cent were plasmodium falciparum. The mixed type was found in La Mitra only.

TABLE XIII.—*Number and percentage distribution of different types of malaria*

Types of malaria parasites	La Mitra No. 118		Hatcher No. 27		San Jose No. 45		Smith Bell No. 82		Total No. 372	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
P. vivax	67	57	19	70.4	36	80	46	56	168	62
P. malaria	30	25	5	18.5	5	11	14	17	54	20
P. falciparum	18	15	3	11.1	4	9	22	27	47	17
P. vivax and P. malaria	3	3	......	......	......	......	......	......	3	11

Table XIV shows "healthy malaria carriers." Most of the "healthy malaria carriers" were found in la Mitra. A total of 43 or 3.48 per cent plasmodium vivax carriers, 13 or 1.05 per cent plasmodium malaria carriers, and seven or 0.56 per cent plasmodium falciparum were found.

It is, indeed, difficult to determine the "healthy malaria carriers," because no reliable information could be obtained as to whether or not people had never been sick sometime in their lives. Many laborers, especially the Ilocanos, would not tell whether they were sick or not, for fear that they would be obliged to take quinine. In this case, we would depend only upon the physical examination of the individual persons.

TABLE XIV.—*Percentage of "Healthy Malaria Carriers" based upon the number of blood examinations*

Types of parasites	La Mitra		San Jose		Hatcher		Smith Bell		Tota	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
P. vivax	31	9.42	5	2.33	5	2.63	2	0.40	43	3.48
P. malaria	8	2.43	......	......	1	0.52	4	0.80	13	1.05
P. falciparum	3	0.91	......	......	4	2.8	......	......	7	0.56

Table XV shows parasite-positive cases with enlarged spleens, and in *not* enlarged spleens, and parasite-negative cases with enlarged spleens. A total of 123 or 28 per cent were parasite-positives with an enlarged spleen; 150 or 18.6 per cent were parasite-positives, but the spleen was not enlarged; and 278 or 63 per cent were parasite-negatives, but the spleen was enlarged.

It might be deduced that parasite-positive cases may have no enlargement of the spleen and parasite-negative cases may have an enlarged spleen also. It is very probable that the parasite-positive cases are carriers, and those with an enlarged spleen who are at the same time parasite-negatives might be susceptible to some other affections and perhaps to quinization .

TABLE XV.—*Parasite-positives with enlarged spleens and spleens not enlarged, and parasite-negatives with enlarged spleens*

	La Mitra		San Jose		Hatcher		Smith Bell		Total	
		P. ct.		*P. ct.*		*P. ct.*		*P. ct.*		*P. ct.*
Enlarged spleen and parasite-positives	50	34.0	27	26	1	25.0	45	24.0	123	28.0
Spleen not enlarged and parasite-positives	69	22.8	19	17.8	27	12.9	35	18.5	150	18.6
Enlarged spleen and parasite-positives	47	31.9	73	70.8	3	75.0	155	83.7	278	63.0

Although this survey was purely investigative in character, it might be well to make here some suggestions in the way of the treatment and prevention of malaria.

It is believed that any quinine method of treatment, if properly administered, will do well. It must be remembered, however, that in every case of suspected malaria, quinine should be given; and if the fever does not disappear or is not reduced within five days, it is not perhaps a case of malaria. In every diagnosed case of malaria, quinine should be given one-half hour before the chill, because quinine is assimilated at least one-half hour after its administration; and since it is excreted thru the system within six hours after taking it, the best way is to give it in fractional doses, the full dose three times a day, if some effect is at all expected.

SUMMARY AND RECOMMENDATIONS

1. A total of 1,423 persons were examined, of whom 978 or 68.7 per cent were males, and 445 or 31.3 per cent females.

2. A total of 764 or 53.6 per cent were examined between the ages of 16 and 30; and 294 or 20.7 per cent between 31 and 60.

3. A total of 888 or 62.4 per cent were single, and 530 or 37.2 per cent married.

4. A total of 646 or 45.4 per cent were permanent residents; 341 or 24 per cent, seasonal with houses in the vicinity; and 434 or 30.5 per cent, seasonal with houses remote.

5. A total of 1,056 or 74.2 per cent were field workers; 154 or 11 per cent were indoor-workers (including housewives); and 201 or 14 per cent, non-workers including children.

6. A total of 471 or 31 per cent had no history of malaria; 724 or 51 per cent have had malaria at this place; 192 or 13.5 per cent have had malaria at former residence; and 17 or 1.2 per cent have had malaria at both places. A total of 434 or 67.3 per cent were permanet residents having had malaria at this place.

7. Quinine is freely distributed in the surveyed localities. A total of 751 or 53 per cent were sick sometime in thier lives and have received quinine treatment.

8. A total of 1,357 or 95.4 per cent sleep on the floor and 1,196 do not use mosquito nets, conditions which favor the spread of malaria at this place.

9. A total of 439 or 30.9 per cent have enlarged spleens. Of the cases of enlarged spleens, 28 per cent are parasite-positive, and 63 per cent parasite-negative.

10. A total of 354 or 25 per cent were found to have a hemoglobin percentage below 75. The hæmoglobin index is not so much due to anemia caused by malaria, but rather to hard labor, malnutrition, and underfeeding. Better diet will increase the hæmoglobin percentage.

11. A total of 49 or 3.4 per cent have probably diseased lungs, but the presence of this affection does not probably predispose the patient to malaria in any way.

12. A total of 272 or 22 per cent were malaria-positive; 168 or 62 per cent, had plasmodium vivax; 54 or 20 per cent, plasmodium malaria; 47 or 17 per cent, plasmodium falciparum; and three or 11 per cent, mixed plasmodium vivax and plasmodium malaria.

13. "Healthy malaria carriers" were found in 63 cases or 5.11 per cent.

14. A total of 150 cases or 18.3 per cent were positive without any enlargement of the spleen.

It is hereby recommended:

15. That the house in the sugar-cane plantations be constructed at a distance of not less than one hundred meters from a river or brook, since it is generally accepted that the flight of anopheles mosquitoes does not go beyond this distance; and more houses should be built to prevent over-crowding;

16. That in order to counter-balance the excessive labor, the plantations should devise some way to enable the laborers to get fresh meat and fish at least twice a week, instead of the dried salted fish, canned salmon, and sardines, which they are

forced to subsist on at all times. In this way, they may produce enough resistance against malaria or other similar diseases;

17. That all houses for laborers be provided with terracota containers, properly covered and provided with faucets, to avoid the present practice of having un uncovered tin can as a private reservoir for drinking-water, which is favorable to mosquito-breeding;

18. That in the distribution of quinine among the malaria patients, the sanitary inspectors and the hospital attendants of the plantations will see to it that the laborers take quinine in their presence, both as a prophylactic and curative agent, and that they be strictly isolated in the hospitals of the plantations so as to receive systematic and complete quinine treatments;

19. That the use of mosquito nets be made obligatory. The abaca and the cotton mosquito netting is the cheapest and is within the reach of the laborers; and

20. That for the ultimate prevention of malaria, the campaign against this disease should be waged more extensively.

MISCELLANEOUS

DOCTOR OROSA AND MR. MAÑOSA BACK FROM A TRIP IN TARLAC, PANGASINAN, AND NUEVA ECIJA

Acting Chief, Division of Hospitals, Dispensaries and Laboratories Orosa and Acting Chief, Division of Sanitary Engineering Mañosa returned on August 30 after two days inspection trip in the Provinces of Tarlac, Pangasinan, and Nueva Ecija where the proposed sites for hospital construction were finally decided upon.

Doctor Orosa reports that the provincial and municipal authorities were very much interested in the matter of hospitals and dispensaries. They were the object of courtesy and kindness during the trip, and every house they went to, had its latch string out.

As a side issue, Doctor Orosa and Mr. Mañosa noticed the effects of the last typhoon. Wide tracts of land along the railroad lines were under water; damaged roads and bridges and crops reduced to waste were also observed. The rice fields have been under water for one week and it would take another week before the water would completely recede. It is feared that Pangasinan will not be able to export rice next year as heretofore. It is estimated that the total destruction done by the typhoon in the Province of Pangasinan alone amounts to three million pesos. The provincial authorities of Tarlac and Pangasinan, however, where the typhoon was particularly destructive, are wide awake to their problems and they are exerting their effort to solve them.

HEALTH INSPECTOR KIERULF BACK FROM SOUHT

District Health Inspector Kierulf of the Philippine Health Service inspected the Province of Cebu, Bohol, Misamis, and Leyte. In general, the sanitary conditions of these places are good except in the municipalities of Jagna, Garcia, and Hernandez of the Province of Bohol, where he found some cases of dysentery. However, the dysentery situation in the municipalities of Tacloban, Jaro, Carigara, and Barugo, Leyte, has greatly improved.

Doctor Kierulf also reports that malaria is endemic in Gingoog. The Provincial Hospital in Cagayan in the Province of Misamis is now under repair in order to make rooms for more patients.

The local authorities as well as the Women's Club of Tacloban and the Red Cross Nurse are coöperating in eradicating dysentery in Leyte and Bohol.

REPORT OF THE PHYSICIAN OF CITY INSANE ASYLUM

In accordance with the report of Dr. Telesforo Ejercito, Director and Physician of the City Insane Asylum, on August 25, 12 inmates have fully recovered their mental sanity.

HEALTH CONDITION OF JOLO, SULU

Doctor Pañganiban, Acting District Health Officer, of the Province of Sulu reports that the general health condition in his district in the month of July is normal with the exception of some wild sporadic cases of influenza with no deaths.

A total of 962 vaccinations were made, of which 510 were positive. There were 3,800 cases in the dispensaries with 7,786 treatment, the most common of which were malaria, scabies, bronchitis, pharyngitis, ankylostomiasis, conjunctivities, and ascariasis.

In the Sulu Public Hospital, 107 patients were admitted and 103 discharged; and three major and 66 minor operations were performed. The total collection was ₱795.97 and expenses, ₱753.18.

One hundred and thirty-five specimens were examined, and 1,129 house inspections were made.

WORK OF THE RAT, FLY, AND MOSQUITO EXTERMINATION BRIGADE

Sanitary Inspector Hunniecutt, in charge of the Rat, Fly and Mosquito Extermination reports that 56 sanitary inspectors and laborers are engaged in this work in the City of Manila, twelve of whom are paid by the Philippine Health Service.

Among other things, the monthly average number of houses inspected was 12,845; houses where breeding places were found, 935; breeding places found in houses, 871; vessels ordered emptied or removed, 633; drains ordered cleaned, 339; breeding places oiled on private premises, 14,266; breeding places oiled on public properties, 14,042; receptacles overturned, 758; stables inspected, 263; and stables cleaned, 114. The monthly average number of rats caught was 7,839.

The City of Manila is covered by the mosquito brigade within a period of 25 to 35 days. The street drains which have a direct bearing in mosquito propagation cannot be continued during the dry season for lack of funds.

The esteros are more or less like pest holes. Many have been filled up and block the street drainage. In the dry season the esteros and the street drains are the largest mosquito breeding nuisances, and they are filled with water-lilies which interfere with oiling. The mosquitoes also breed in roof-gutters in districts where shade trees are located.

Seventy-five per cent of the mosquito complaints were attended and have resulted in finding mosquitoes breeding on the premises of the complainants; the same with the fly complaints. Mosquitoes breed in everything that would hold water to a depth of one quarter of an inch. Ninety per cent of the people in Manila are doing absolutely nothing to alleviate this nuisance. Without the coöperation of the public, no improvement can be expected in abating the mosquito and fly nuisance.

Recently a complaint was attended to where five members of the family had dengue successively, and in all probability the whole trouble was caused by the mosquito breeding places existing on thier premises due to negligence. It is a reasonable excuse to call the Philippine Health Service for assistance if the mosquitoes continue to be troublesome after a period of three days when all the mosquito breeding places have been eliminated from the premises.

If everyone would go over their houses and yards once a week and eliminate the breeding places found, much improvement would result in the mosquito situation. One hour once a week would be sufficient to take care of the average premises.

Carelessness in the disposal of garbage contributes to the breeding places for flies. Garbage scattered over the street from the improper emptying of the receptacles, the bottom of the leakage garbage can and the foot of the steps after flushing cement floors of kitchens and sweeping the water down are breeding places for flies. These places should be sprayed with coal oil three or four times a week.

THE DIRECTOR OF HEALTH REQUIRES DIVISION CHIEFS TO INVESTIGATE PAPER WORK AND ROUTINE REPORTS

The Director of Health has written to all chiefs of divisions and offices requesting them to go into and report as soon as possible upon the whole matter of paper work, routine reports and report forms now in use in the Philippine Health Service.

The tendency for any administrative office is to gradually require an increasing number of reports which ultimately become a serious burden in respect to preparation. Some of the reports are unquestionably necessary and their forms have stood the test of time. It is possible that others require change or may be shortened. Possibly it may be found that others may be discontinued altogether without detriment to the service.

In the provinces, it is, of course, desirable to reduce clerical labor to the actual necesities, so as by so much to set free personnel for other and actual health duties. This might permit of more inspections, more clinics, and more attention to planning and administrative matters.

In the office of the Director, the clerical force seems overtaxed. There seems no prospect of the increase of such personnel. Any reduction of routine labor will thus be worth while, and enable the taking up of planning for the future, and the carrying out of important matters that ought to be thoroughly well handled and now are hampered by inadequate personnel.

In this proposed investigation, the Director states that the following points shall be kept in mind:

1. Is the report of real value to the office of the Director of Health?
2. If of some value, does that value compensate for the time taken in its preparation by persons in the field, who are by so much taken from other duties?
3. If of real value in part at least, and worth while preparing, can it be condensed and shortened?
4. If of no material value, can it not be discontinued?

APPLICANTS FOR MEDICAL RELIEF WORK STILL POURING IN TO OFFICE OF DIRECTOR OF HEALTH

Since the first volunteers of Filipino doctors and nurses who left on the U. S. Transfort *Merrit* for Japan medical relief work yesterday morning (Sept. 6th), many applicants are still continually pouring in to the office of the Director of Health, who are only too glad to give their service for the Japan catastrophe.

Doctor De Jesus has received telegram from the District Health Officer of Cavite who states: "If you need more helpers for Japan catastrophe, relieve service, respectfully offer mine," and one from the President of the Fifth Sanitary Division of the same province, saying, "Volunteer myself for Japan catastrophe. Speak Japanese."

Among the list of new applicants are Drs. Silvino Alberto, Rosendo Reyes, Felix F. Basilio, Angel Alomia, Agustin Gomez, Agripino Maloniban, Rafael J. Perez, Ramon R. Rios, M. Torres, Valeriano L. Reyes, Braulio Sison, T. Layug, Ocampo, and Dentists Teodorico Rivera and Luis Cruz.

In case the Government should decide, and the necessities of the moment so dictate, and this depends upon a message from Colonel Munson, these dorctors may form the second contingent of relief workers.

PROBABILITY OF SYSTEMATIZED DESTRUCTION OF ADULT MOSQUITOES WITHIN HOUSES

The Director of Health states that the usual open construction of houses in these islands makes their being rendered mosquito proof a matter of practical impossibility. Also it would be an expense to close them, by mosquito screening, beyond the means of the average householder.

There is also considered doubt as to whether, in practice, even thorough anti-mosquito screening affords satisfactory protection. The reason is that mosquitoes find their way into such screened houses thru the opening of doors—and once behind such screens it is impossible for them to get out. They are then held there during their term of life, an annoyance and a source of danger to occupants.

It has happened that families living in such screened houses have had repeated outbreaks of dengue, and it is fair to presume that these successive cases have come from what might be called "residual mosquitoes" which are infected and which are imprisoned in such house.

All the anti-mosquito measures now in vogue are not destructive. In view of finding some reasonably effective remedy, the Rockefeller Foundation, in coöperation with the Philippine Health Service, will soon undertake experiments (1) as to the practical value of "fly swatters" in mosquito destruction in houses; (2) the practicability of testing out bamboo traps, which can be made at no expense; and (3) the use of attractive solutions poisonous to mosquitoes which can be exposed freely about the houses. If these things can be successfully carried out, it would seem that the Rockefeller Foundation will have taken a great step toward the practical control of mosquito-borne diseases in the Philippines.

SANITARY IMPROVEMENT OF THE SITE OF THE CITY OF MANILA

The Director of Health recently has instructed the Sanitary Engineer of the Philippine Health Service to undertake and carry out, in addition to his other duties, the preparation of a comprehensive plan for the permanent sanitary improvement of the site of the City of Manila. Such a plan should look to the future as well as the present, and provide ways and means by which the sanitary problems of the greater Manila of the future may be met when—or before—that need arises.

It is not possible at this time to fix any definite date when these plans should be completed. Much data is doubtless on hand, but this will need be searched out and worked up. Other data will have to be worked up from the beginning. Much could be done in the space of a few months, but sufficient time should be allowed in any case to permit of drawing up a plan in perfected conclusions.

Within a generation, Manila will probably have a population of about half a million. It is obiously important that any plans to meet the sanitary needs of the site of Manila of to-day shall likewise include preparation to meet the needs of the much larger Manila doubtless destined to develop in the future.

The work of preparing these plans will be a task of great magnitude. But it is a task that grows greater in time and increases with the actual increase of population. It is obviously much better, easier, and cheaper to make sanitary improvements on unoccupied lands than after costly buildings, roads and other structures have been placed upon them.

Due to the geological nature of the site of Manila, much of it is low lying and poorly drained. In the wet season, large areas are submerged or water logged. Even in the dry season, large areas are so low as to be under water at high tide. This condition is highly insanitary as well as being insightly. It breeds mosquitoes in vast swarms, which carry much disease as well as materially impair comfort. It tempts to the throwing of filth about habitations, and this filth, which frequently carries the germs of intestinal diseases, may be distributed by the water over large spaces and distances. Foul odors are generated and nuisances are multiplied.

The problem will incidentally contribute to the development of the Burnham plan for a more beautiful Manila. The purpose is to make Manila a healthier city to live in. For this reason, the Sanitary Engineer will need to keep in constant touch with the City Engineer and the Bureau of Public Works, where he will constantly seek their aid and counsel in developing the plan.

ARRIVAL OF PHILIPPINE DELEGATES FOR THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE IN SAIGON

In a letter received at the office of the Director of Health yesterday from Acting Chief of Communicable Diseases Lopez-Rizal, it was known that the Philippine delegates for the Far Eastern Association of Tropical Medicine, headed by Vice-Governor Gilmore, arrived safely in Saigon on August 27. Doctor Lopez states that they were warmly welcomed by the French authorities there. His Excellency, the Governor-General of Indochina, the chiefs of bureaus and other French authorities offered an exquisite banquet to our delegates. They also visited the Pasteur Institute.

The Mayor of the City of Haiphong accompanied the delegates for a sight-seeing in autos and a special train to the City of Hanoi where they visited the School of Medicine and the City Hospital, which have impressed them very much.

DOCTORS PADUA AND GARCIA LEFT FOR LEYTE

Doctor Padua of the Division of Communicable Disease of the Philippine Health Service and Doctor Garcia, Assistant Bacteriologist of the Bureau of Science, left last night on the steamer *Sontua* for Leyte. They will investigate the dysentery situation there, and adopt preventive and suppresive measures for the prompt eradication of the disease. They brought with them a sufficient supply of anti-dysentery serum and medicines.

MALARIA CAMPAIGN IN PAMPANGA

Mr. W. D. Tiedeman, of the Rockefeller Foundation, working in cooperation with the Philippine Health Service, reports that on August 22 a demonstration of mosquito control was started at Prado, a barrio of Lubao, Pampanga. The work is progressing nicely. They are now removing some obstructions and straightening the channel of a stream in the barrio with dynamite. This work together with the routine observations will be continued thru the next month.

CONTRIBUTION FOR JAPAN RELIEF WORK

The Director of Health has issued the following circular with regard to the voluntary contributions for the sufferers of Japan:

"In the name of the Filipino people and the President of the Senate, the Hon. Manuel Quezon, as authorized by His Excellency, the Governor-General, the Philippine Health Service, in conjunction with other bureaus of the Government, is in duty bound to respond to the call for help for the sufferers of the last catastrophe in the neighboring Japanese Empire. In this connection, the Service requests voluntary contributions from its employees in Manila and the provinces.

"The District Health Officers will take charge of the collection in their respective provinces, and the Executive Officer in Manila. The amount collected shall be sent to the Director of Health not later than October 15, 1923, in cash or post-office money order. If the provinces are very far the amount of contribution should be wired to the Director of Health."

The Director of Health expects a collection of not less than ₱2,000 from this Service personnel alone.

DOCTOR LAYGO BACK FROM SAMAR

Doctor Laygo, of the Philippine Health Service, returned on September 13, on the steamer *Churruca* after taking charge of the medical relief work for one and one-half months at Borongan. He reports that dysentery is now completely eradicated there. No new cases appear, and what remain are the old convalescent cases only.

TRAINING FOR LOCAL HEALTH OFFICERS

The training for local health officers began on January 15, 1923. Twenty-five have already finished the two weeks' course, and during this month, four are taking it. This course is so arranged that health officers may be able to have their training any time.

The following program covers the two weeks of instruction.

FIRST WEEK

First day.—Administrative Code (certain sections); Act 3115; lectures, routine duties; special duties; permanent and miscellaneous duties.

Second day.—Manual of the Service: regulations of the service, rules and regulations of cemeteries, uniform regulations and penalties for violations of health laws.

Third day.—Circulars and reports, records and files.

Fourth day.—Traveding expenses, bills and vouchers, receipts, payrolls, and requisitions.

Fifth day.—Management of epidemic and control of communicable diseases, and reading of different bulletins of the service.

Sixth day.—Reading of circulars: ordinances on the disposal of garbage, sanitary measures against dysentery, school inspections, collection of vital statistics, preparation of request for laboratory examination, checking of reports before filling, physical examinations of civil service applicants, copies of municipal ordinances on the desk of the President of Sanitary Division, uniforms for sanitary inspectors, permanent records, outline of smallpox vaccination, antityphoid and cholera vaccinations and participation in Garden Day Celebrations.

SECOND WEEK

First day.—Reading of circulars: uniforms, amendment of certain cir culars, schedule for public lectures, sign boards and prophylactic inoculations, standardization of inspections, record of dispensaries, courtesy, vacation leave, cholera, smallpox vaccination, sanitary inspectors, classes of dispensaries, standard for sanitary orders and artesian wells.

Second day.—Practical questions about several sections of Administrative Code with regard to organization of municipal sanitary divisions and files of the office of the Presidents of the Sanitary Divisions.

Third day.—Practical questions about regulations of the service and practice on preparations of several weekly, monthly, and quarterly reports, and report of medical inspections of schools.

Fourth day.—Practical questions about several circulars and practice on preparations of vouchers, receipts, accounts, requisitions, telegrams, diagrams, records of dispensaries, application of leave of absence, practical questions about several bulletins of the service and practice on several sanitary measures; disinfection and Antipolo System.

Fifth day.—Practical demonstration in the office of President of Sanitary Division of Pasay, inspection of market and slaugterhouses and inspection of Antipolo System of closets.

COURSE FOR SANITARY INSPECTORS

The course for Sanitary Inspectors conducted by the Philippine Health Service was opened for the second time on September 17. This course will last for six months.

Practical lectures are given to the students either at San Lazaro Hospital or at the College of Medicine and Surgery by personnel of the service and the University of the Philippines. The subjects are anatomy, medical zoölogy, bacteriology, vital statistics, sanitary engineering, first aid, general sanitation, educational publicity, personal hygiene, child hygiene, mental hygiene, social economics, English, and Spanish.

Mostly high school graduates as well as assistant sanitary inspectors already in the employ of the service from different provinces, who had the required qualifications, have been admitted in a limited number in the course. At the opening, twenty-seven students have registered altho a few more sanitary inspectors from the Mountain Province, Visayan islands. and Mindanao are also expected to arrive to take course. The names that already registered are Nicanor Carasig, Francisco Cavestany, Jose Villareal, Carlos Katalan, Emiliano Corpus, Ciriaco Balancio, Clemente Valderrama, Ricardo Inton, Alfredo Alejandrino, Gregorio Delatado, Eulogio Tolete, Epitacio Geronimo, Carlos de Lara, Ruperto Reas, Godofredo Gemosa, Simplicio Godoy, Juan Dimaculangan, Jose Arca, Floro Vizconde, Silverio Dignum, Ricardo Perez Ceferino Palor, Gregorio Fernandez, Valentin Punsal, Anselmo Bugarin, Quirico Santos, and Quirico Horca.

DYSENTERY IN LEYTE

Doctor Kierulf, District Inspector of the Philipine Health Service, reports that the dysentery situation in Leyte is improving. The last death rate was 25 per 1,000 population.

For the complete eradication of the disease especially in places where it is endemic, Doctor Kierulf is undertaking a campaign for drilling pump-wells. The Provincial Governor and the Provincial Treasurer have promised to give their financial support.

A survey of the existing conditions of water supply and disposal of human excrement is conducted by Doctors Padua of the Division of Communicable Diseases and Garcia of the Bureau of Science. Likewise, a campaign for the enactment and enforcement of ordinances for human waste disposal is also carried out.

The municipalities that need pump-wells are Tacloban, Palo, Tanauan, Dagami, Dulag, Tolosa, Jaro, Alang-alang, Pastrana, Carigara, Barugo, Naval, Ormoc, and Kawayan.

YAWS CLINIC IN AGUSAN

The District Health Officer of Butuan, Agusan, in Mindanao and Sulu reports that a total of 187 cases of yaws received intramuscular injections of neo-salvarsan during the month of August. Of these, 112 were children and 75 adults. A total of 100 attend school. Ten are suffering from the primary stage of the disease; 158, secondary; and 19, tertiary.

The clinics were conducted in different municipalties as follows: Maasim, 14; Bakinking, 5; Bunaguit, 7; Esperanza, 71; Santa Fe, 12; Santa Ines, 5; Guadalupe, 18; Nuevo Trabajo, 27; and Talacogon, 28.

SANITATION IN THE MOUNTAIN PROVINCE

With the advent of modern civilization, the introduction of various industries and establishment of public schools in the Mountain Province, modern sanitation is also gaining a foothold among the poor, rugged mountaineers. The houses are low and are not provided with windows and scarcely a door, naturally keep away the entrance of fresh air and sunlight; they are now gradually being raised from the ground and proper ventilation secured.

The need of proper sites for cemeteries are also being realized, where formerly the foot of a hill, between rocks, was made the resting-place for the dead. The Antipolo system of toilets have been constructed in some places.

The Igorots are now more careful as to their personal hygiene and general sanitation. In fact, the morality from respiratory diseases, which are mostly caused by foul air and the morbidity from skin diseases, especially ringworm, are now markedly reduced. There were only few deaths from typhoid and dysentery and none from cholera according to last year's health report.

SAVING THE BABIES IN THE PHILIPPINES

In 1918 the infant death rate in the provinces (Mindanao and Sulu excluded) was 255 per thousand. That is out of every 1,000 babies born alive, 255 died in that year before reaching the age of one year. The Philippine Health Service can no longer afford to continue unmindful of its high baby death rate.

In the following year, 1919, the infant death rate in the provinces dropped to 234 per thousand. In 1920 it went down to 158; in 1921, to 167, and in 1922 the decline reached 153. In other words, the provinces reduced their infant mortality rate 102 per thousand births within the short space of four years. This 102 reduction furnishes a striking example of what may be accomplished in infant welfare work in the Philippines.

RETURN OF PHILIPPINE DELEGATES FROM SINGAPORE

Headed by Vice-Governor-General Gilmore, the Philippine delegates composed of Dr. Leoncio Lopez Rizal, Acting Chief of the Division of Communicable Diseases, Dr. Perpetuo Gutierrez of the University of the Philippines, and Dr. W. H. Wade of the Culion Leper Colony and others arrived this morning on the Steamship *President McKinley*.

DEATH OF DR. ANDRES CATANJAL

Dr. Andres Catanjal, Chief, Division of Metropolitan Sanitation of the Philippine Health Service, died at the age of 58 at San Lazaro Hospital of heart failure at 5 o'clock a. m. today.

Doctor Catanjal was in the Service for more than 21 years. His services were meritorious. He was President of the Provincial Board of Health of Tarlac in 1902 and in 1906 District Health Officer of the same province. In 1913 he was ordered to Pangasinan and Cuyo to assist the health authorities in the control of cholera. In 1915 he was commissioned as Medical Inspector and in 1917 as Senior Medical Inspector. He was district health officer of Iloilo in 1919; Chief of San Lazaro Hospital in 1920; Acting Chief, Division of Manila Sanitation in 1921, and Chief, Metropolitan Sanitation in 1923 and up to the time of his death. He was also a member of the Executive Committee for the investigation of typhoid situation in the City of Manila in 1922.

Doctor Catanjal left a widow and ten children. The death of this man is certainly a great loss to the Service.

FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE

CLOSE OF THE FIFTH CONGRESS HELD AT SINGAPORE
RECOMMENDATIONS AS TO BERI-BERI CONTROL

The official proceedings of the Medical Congress concluded, when the reports of the committees appointed to consider the question of beri-beri control and other matters were presented to a full meeting of members in the Victoria Theatre.

At the commencement the President (Doctor Hoops) stated that a number of members had already subscribed to the Far Eastern Association of Tropical Medicine Japanese Relief Fund, and that Doctor Galloway had headed the list with a subscription of $1,000. The council voted $1,000 from the Association's funds, and the total was now $3,840.

The motion of the President that the investigation of the Japanese Government to hold the next Congress at Tokio in 1925 be accepted was carried with acclamation.

Doctor Miyagawa, of the Tokio Imperial University, on behalf of the Japanese Government assured the members of a warm welcome at Tokio, and also expressed the thanks of the Japanese delegates for the sympathy and assistance of the Association in regard to the Japaneses disaster.

The recommendations of the beri-beri committee, which consisted of Doctors De Langen, Stanton, Guerin, Kanai, H. S. H. Thavara, Lopez Rizal, and Lieutenant-Colonel Bissett, were as follows:

"The Association of the Far Eastern Association of Tropical Medicine has considered the proposal of the Philippine Islands Delegation for international action in the control of beri-beri and has taken note of the views of the official delegates of the Governments represented in the Fifth Congress.

"The Association is of opinion that consequent upon the divergence of views disclosed in the statement of official delegates, any international convention is at present impracticable.

"The Association reaffirms its belief that beri-beri is a disorder of nutrition, and that in the Far East the principal factor in its causation is a diet of which over-milled rice forms the staple.

"The Association recommends that interested Governments be invited to promote further research in the following questions in relation to beri-beri control:

(*a*) The standardization of rice;

(*b*) The effects of transport and storage of rice;

"The Association recommends that each of the Governments interested and the Rockefeller Foundation be invited to nominate a representative on a "committee for the study of beri-beri" which shall report at the next Congress.

"The Association considers that in the meantime individual Governments should take such action for the control of beri-beri as may be suited to local conditions in their respective countries and should devote special attention to devising and applying practical methods of improving the diet of the general population with regard to the too exclusive use of over-milled rice and should be requested to make available to the next Congress systematic observations and statistical data of the results of these methods.

"The Association considers that educational methods of control on the basis of the available scientific knowledge should be vigorously appleid in all countries."

The report of the sub-committee appointed to consider the question of spleen measurement was adopted.

The President proposed a resolution advocating uniform port quarantine procedure in the Far East in the following terms:

"The Congress considers that the regulations of the international convention of Paris of 1912 are not suitable for the proper carrying out of quarantine measures in the Far East.

"The revisions so far proposed do not alter this unsuitability.

"Circumstances in the Far East demand quite different quarantine procedure from that in Europe. It is therefore desirable that a separate agreement should be drawn up to govern quarantine regulations in the Far East, and to allow of the necessary coöperation between the different Far Eastern countries.

"It is also agreed that copies of this resolution be sent to all the Governments of the Far East, and to the office of the Health Committee of the League of Nations and L'Office d'Internationale Hygiene at Paris."

This resolution was carried.

A resolution requesting the Health Committee of the League of Nations to arrange for the temporary interchange of the sanitary personnel in the countries of the Far East, and to provide a course of instruction for health officers at Tokio after the next Congress, was also carried.

Dr. Van J. J. Lonkhuijzen, one of the Dutch East Indies delegation, in proposing a vote of thanks to the organizer of the Congress, said that although it was not yet possible to look at all the scientific and practical result of this Congress, yet they would all agree that it had been a great success in all directions. They owed hearty thanks to all who had given their time and hospitality to bring about that result, including His Excellency, the Governor-General and Lady Gullemard, their President, and their hard-working Secretary, Doctor Scharff.

OFFICE OF THE GOVERNOR-GENERAL OF THE PHILIPPINE ISLANDS

MANILA, *September 14, 1923*

DEAR DOCTOR JESUS:

I am very glad to have your report of the systematic anti-smallpox vaccination campaign, which is apparently a very well ordered arrangement. Please give this matter your personal attention, following it up with vigor and keeping the work up to schedule at all times.

Very sincerely yours,

(Sgd.) LEONARD WOOD
Governor-General

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of September, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,184
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,136
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

Date	Pressure [1] mean	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	757.19	27.1	32.8	8	22.3	6	29.5	29.8
11-20	57.16	27.0	32.4	16	22.5	19	30.1	30.2
21-31	55.19	26.1	31.6	21	23.4	25, 27	28.8	28.9

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	81.7	84.0	10	78.1	8
11-20	83.1	89.0	17	80.4	19
21-31	87.8	92.4	22	79.7	30

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CNTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATINS—Continued

Date	Wind				Atmidometer [1] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	W quad.	2,052.0	282.0	7	35.2	4.7	4
11-20	SW quad.	2,332.0	427.0	14	30.6	4.2	11,17
21-31	SW quad.	2,812.0	507.5	26	18.5	4.2	30

Date	Sunshine			Rainfal	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	75 35	11 00	6	61.7	6
11-20	44 55	9 20	14	76.0	6
21-31	12 05	5 05	30	243.6	8

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	6	9	34.96
Filipinos	524	509	1,033	45.30
Spaniards	4	4	8	49.82
Other Europeans	2	3	5	54.06
Chinese	19	15	34	23.18
All others	1	....	1	5.57
Total and average	553	537	1,090	43.67

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	120	101	221	8	8	16	237	77.22
No. 2, Meisic	79	79	158	2	7	9	167	19.53
No. 4, Sampaloc	103	90	193	5	5	10	203	50.11
No. 5, Tondo	168	175	343	18	10	28	371	56.06
No. 6, Paco	47	57	104	3	5	8	112	41.91
Total	517	502	1,019	36	35	71	1,090	43.67

Number of births attended by physicians, living, 302; stillbirths, 21.
Number of births attended by midwives, living, 94; stillbirths, 3.
Number of births attended by family, living, 694; stillbirths, 16.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	3	2	5	19.42
Filipinos	309	315	624	27.36
Spaniards	3	3	6	37.36
Other Europeans	1	1	2	21.62
Chinese	24	3	27	18.41
All others	....	....	....	....
Total and average	340	324	664	26.60

TOTAL DEATHS BY SOCIAL CONDITIONS, INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	105	103
Divorced	....	....
Widowed	33	51
Single	249	202
Condition not stated	3	1
Total	390	357
Grand total	747	

Stillbirths	40
Number of deaths with medical attendance	366
Number of deaths without medical attendance	381

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	33	37	....	....	70
30 days to under 1 year	79	63	8	6	156
1 year to under 2 years	32	30	4	3	69
2 years to 4 years	32	25	2	....	59
5 years to 9 years	3	6	1	....	10
10 years to 14 years	6	4	1	3	14
15 years to 19 years	13	15	2	2	32
20 years to 29 years	23	21	12	6	62
30 years to 39 years	20	32	3	6	61
40 years to 49 years	28	27	8	4	67
50 years to 59 years	30	17	1	1	49
60 years to 69 years	15	17	4	1	37
70 years to 79 years	15	11	....	1	27
80 years to 89 years	5	13	4	....	22
90 years to 99 years	5	6	....	....	11
100 years and over	1	....	....	....	1
Age not stated	....	....	....	....	....
Total	340	324	50	33	747

DEATHS AND DEATHRATES PER 1,000, BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	138	44.97
No. 2, Meisic	116	13.57
No. 4, Sampaloc	90	22.22
No. 5, Tondo	332	50.17
No. 6, Paco	71	26.57
Total	747	29.93

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever	1		11	7					1	1			21
9. Diphtheria and croup			2										2
10. Influenza			4	5									9
14. Dysentery			4	6									10
17. Leprosy			2										2
19. Other epidemic diseases			2	2									4
20. Purulent infection and septicæmia			1										1
21. Glanders			1										1
22. Anthrax						1							1
23. Rabies			1										1
24. Tetanus			2	1									8
27. Beriberi			1	2									3
27a. Beriberi, infantile			34	30					2				66
28. Tuberculosis of the lungs			57	59	1				11				128
29. Acute miliary tuberculosis			1										1
30. Tuberculous meningitis			5						1				6
31. Abdominal tuberculosis				3									3
34. Tuberculosis of other organs			1										1
35. Disseminated tuberculosis			1										1
37. Syphilis			1	1									2
39. Cancer and other malignant tumors of the buccal cavity			1										1
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum				1									1
42. Cancer and other malignant tumors of the female genital organs				3									3
43. Cancer and other malignant tumors of the breast				2									2
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
48. Chronic rheumatism and gout			1										1
50. Diabetes				1									1
54. Anæmia, chlorosis					1								1
55. Other general diseases				1									1
56. Alcoholism (acute or chronic)	1												1

II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1	1									2
61. Simple meningitis:													
(1) Simple meningitis			9	13					1				23
64. Cerebral hæmorrhage, apoplexy			3	7					1				11
66. Paralysis without specified cause				2									2
67. General paralysis of the insane							1						1
68. Other forms of mental alienation			2	1									3
71. Convulsions of infants (under 5 years of age)			2										2
III. Diseases of the circulatory system													
78. Acute endocarditis				1					1				2
79. Organic diseases of the heart			5	11				1					17
80. Angina pectoris			3	1									4
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			27	16									43
90. Chronic bronchitis			3	6					1	1			11
91. Broncho-pneumonia		1	20	32					1	1			55
92. Pneumonia			2	4					1				7
93. Pleurisy			1										1
96. Asthma			1			1							2
V. Diseases of the digestive system													
102. Ulcer of the stomach			2	1									3
103. Other diseases of the stomach (cancer excepted)			1										1
104. Diarrhœa and enteritis (under 2 years)			6	5									11
105. Diarrhœa and enteritis (2 years and over)			6	5									11
108. Appendicitis and typhlitis				2									2
109. Hernias, intestinal obstructions			2										2
114. Biliary calculi			1	1									2
117. Simple peritonitis (nonpuerperal)			1	1									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			4	5									9
120. Bright's disease			10	9									19
124. Diseases of the bladder			2										2
130. Other diseases of the uterus				1									1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				3									3
136. Other accidents of labor				1									1
137. Puerperal septicæmia				2									2
138. Puerperal albuminuria and convulsions				1		1							2
139. Puerperal phlegmasia albacolens, embolus, sudden death				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene	....	....	1	....	....	....	....	....	....	....	....	....	1
143. Furuncle	....	....	2	2	....	....	....	....	....	....	....	....	4
144. Acute abscess	....	....	....	1	....	....	....	....	....	....	....	....	1
145. Other diseases of the skin and annexa	....	....	1	....	....	....	....	....	....	....	....	....	1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)	1	....	3	5	....	....	....	....	1	....	....	....	10
(2) Congenital debility	....	....	27	25	....	....	....	....	....	....	....	....	52
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy	....	1	2	2	....	....	....	....	1	....	....	....	6
XII. Old age													
154. Senility	....	....	19	18	....	....	....	....	....	....	....	....	37
XIII. Affections caused by external causes													
165b. Other acute poisonings	....	....	....	....	....	....	....	....	1	....	....	....	1
167. Burns (conflagration excepted)	....	....	1	....	....	....	....	....	....	....	....	....	1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	....	....	1	....	....	....	....	....	....	....	....	....	1
183. Homicide by cutting or piercing instruments	....	....	....	1	....	....	....	....	....	....	....	....	1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	....	....	4	3	....	....	....	....	....	....	....	....	7
Total	3	2	309	315	3	3	1	1	24	3	....	....	664
Grand total	5		624		6		2		27		....		664

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2	3					1				6
9. Diphtheria and croup				1									1
10. Influenza			1										1
14. Dysentery			2					1					3
19. Other epidemic diseases			1										1
24. Tetanus			1										1
27a. Beriberi, infantile			1	2									3
28. Tuberculosis of the lungs			7	5					2	1			15
30. Tuberculosis meningitis			1										1
34. Tuberculosis of other organs			1										1
43. Cancer and other malignant tumors of the breast				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
48. Chronic rheumatism and gout			1										1
55. Other general diseases			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis				3					1				4
64. Cerebral hæmorrhage, apoplexy				1									1
67. General paralysis of the insane	1												1
69. Epilepsy			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart	1		2	1									4
IV. Diseases of the respiratory system													
89. Acute bronchitis			4	1									5
91. Broncho-pneumonia			2	2									4
92. Pneumonia			1	1									2
94. Pulmonary congestion, pulmonary apoplexy			1	1									2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)	...	...	1	1	...	...	...	...	...	...	...	...	2
105. Diarrhœa and enteritis (2 years and over)	...	...	...	1	...	...	...	...	...	...	...	...	1
106. Ankylostomiasis	...	...	1	...	...	...	...	...	...	...	...	...	1
108. Appendicitis and typhlitis	...	...	...	1	...	...	...	...	...	...	...	...	1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis	...	...	...	1	...	...	...	...	...	...	...	...	1
120. Bright's diseases	...	...	2	...	...	...	...	...	...	...	...	...	2
123. Calculi of the urinary passages	...	...	...	1	...	...	...	...	...	...	...	...	1
131. Cysts and other tumors of the ovary	...	...	...	1	...	...	...	...	...	...	...	...	1
VIII. Diseases of the skin and of the cellular tissue													
144. Acute abscess	...	...	1	...	...	...	...	...	...	...	...	...	1
IX Diseases of the bones and of the organs of locomotion													
148. Amputation	...	...	1	...	...	...	...	...	...	...	...	...	1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility	...	...	1	...	...	...	...	...	...	...	...	...	1
XII. Old age													
154. Senility	...	...	4	...	...	...	...	...	...	...	...	...	4
XIII. Affections caused by external causes													
155. Suicide by poison	...	...	...	1	...	...	...	...	...	...	...	...	1
171. Traumatism by cutting or piercing instruments	...	...	2	...	...	...	...	...	...	...	...	...	2
176. Injuries by animals	...	...	1	...	...	...	...	...	...	...	...	...	1
Total	2	...	44	31	...	...	...	1	4	1	...	...	83
Grand total	2		75		...		1		5		...		83

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Influenza					4	4
14. Dysentery					1	1
24. Tetanus				1	1	2
27a. Beriberi, infantile				1	68	69
30. Tuberculous meningitis					1	1
35. Disseminated tuberculosis					1	1
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					9	9
71. Convulsions of infants				1	1	2
89. Acute bronchitis					36	36
90. Chronic bronchitis					4	4
91. Broncho-pneumonia					17	17
104. Diarrhœa and enteritis					7	7
119. Acute nephritis					2	2
145. Other diseases of the skin and annexa					1	1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not still-born)	8	1			1	10
(2) Congenital debility	11	5		17	20	53
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	2	1	1	2		6
Total	21	7	1	22	175	226

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,660
Number of rats caught by spring traps	3,865
Number of cage wire traps set	720
Number of rats caught by cage wire traps	0
Number and kind of baits (coconuts)	22,380
Number of poison portions placed	41,706
Number of rats found poisoned	199
Number of rats killed by clubs and other weapons	2,257
Number of rats found dead from other causes	1,181
Total number of rats otherwise caught, found dead or killed	7,502
Total number of rats sent to the Laboratory for examination	7,502
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF SEPTEMBER 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	3	0	12	1	3	2	13	1	4	0	39
Female	6	0	9	1	2	0	2	1	1	0	22
Dead:											
Male	0	0	1	0	1	0	1	1	0	0	4
Female	0	0	1	0	1	0	1	1	0	0	4
Total:											
Male	3	0	13	1	4	2	14	2	4	0	43
Female	6	0	10	1	3	0	3	2	1	0	26
Grand total	9	0	23	2	7	2	17	4	5	0	69

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	2	1	0	2	3	2	2	0	13
Female	0	0	2	1	2	0	1	2	0	0	8
Total	1	0	4	2	2	2	4	4	2	0	21

Total cases reported within the month in the City of Manila		101
Resident cases	79	
Non-resident cases	31	
Foreign cases	1	
Total deaths reported within the month in the City of Manila		27
Deaths among resident cases	21	
Deaths among non-resident cases	6	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		97
Autopsy	0	
Blood culture	0	
Clinically positive	87	
Feces	1	
Widal reaction	9	
Confirmed cases as paratyphoid		0
Cases not confirmed		4

Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF SEPTEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	1	0	1	0	2
Female	0	0	2	0	0	0	1	0	0	0	3
Dead:											
Male	0	0	0	0	1	1	0	0	0	1	3
Female	1	0	1	1	0	0	0	2	0	0	5
Total:											
Male	0	0	0	0	1	1	1	0	1	1	5
Female	1	0	3	1	0	0	1	2	0	0	8
Grand total	1	0	3	1	1	1	2	2	1	1	13

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	2	1	0	0	0	1	4
Female	0	1	1	1	0	0	0	1	2	0	6
Total	0	1	1	1	2	1	0	1	2	1	10

Total cases reported within the month in the City of Manila		22
Resident cases	18	
Non-resident cases	4	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		13
Deaths among resident cases	10	
Deaths among non-resident cases	3	
Deaths among foreign cases	0	
Reported as:		
Acute dysentery	2	
Amœbic dysentery	1	
Bacillary dysentery	1	
Chronic dysentery	0	
Dysentery	12	
Erroneously reported as dysentery	6	
Total		22

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF SEPTEMBER 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Tota
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		1
Non-resident cases	0	
Foreign cases	0	
Resident cases	1	
Resident cases not confirmed as cholera (found egg)	1	
Resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases (confirmed as cholera)	0	
Deaths among resident cases (not confirmed as cholera)	0	

Cholera carrier—3.

DIPHTHERIA REPORTED DURING THE MONTH OF SEPTEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	1	0	1	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	1	0	1	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	1	0	1	0	2

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	1	0	1	0	2
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	0	2

Total cases reported within the month in the City of Manila		11
Resident cases	9	
Non-resident cases	2	
Resident cases confirmed as diphtheria	2	
Resident cases not confirmed as diphtheria	7	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases (confirmed)	2	
Deaths among non-resident cases	1	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	6	1	0	0
Varioloid	0	0	0	0
Varicella	0	1	0	0
Smallpox	0	0	0	0
Measles	6	7	0	0
Whooping cough	0	2	0	0
Influenza	24	15	4	1
Bubonic plague	0	0	0	5
Beriberi	2	2	1	0
Beriberi, infantile	36	30	36	32
Pulmonary tuberculosis	112	99	70	50
Tuberculosis of all forms	8	3	8	9
Encephalitis lethargica	2	1	2	3

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	2	0	0	0
Varioloid	0	0	0	0
Varicella	0	1	0	0
Smallpox	0	0	0	0
Measles	2	0	0	0
Whooping cough	0	0	0	0
Influenza	3	2	1	0
Bubonic plague	0	0	0	0
Beriberi	1	0	0	0
Beriberi, infantile	1	2	1	2
Pulmonary tuberculosis	28	15	9	6
Tuberculosis of all forms	2	0	2	0
Encephalitis lethargica	0	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF SEPTEMBER, 1923

Sera and vaccines	On hand September 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	1,271,000	....	1,271,000	290,000	981,000
Anti-dysenteric serum (ampoules)	71	....	71	....	71
Anti-tetanic serum (units)	500,000	45,000	545,000	45,000	500,000
Cholera vaccine (c. c.)	8,275	19,330	27,605	23,715	3,890
Dried vaccine virus (units)	550	39,000	39,550	27,900	11,650
Fresh vaccine virus (units)	104,000	250,000	354,000	245,400	108,600
Gonococcus vaccine (ampoules)	....	300	300	300	....
Mixed cholera-typhoid vaccine (c. c.)	5,890	47,390	53,280	53,160	120
Normal horse serum (ampoules)	....	....	....	....	....
Typhoid vaccine (c. c.)	4,990	33,120	38,110	33,280	4,830

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4 years		5 years and over		Total	
		Positives	Negatives	Positives	Negatives	Positives	Negatives	Positives	Negatives
No. 1, Intramuros	2,271	130	73	15	12	156	294	301	379
No. 2, Meisic	829	172	54	31	70	....	....	203	124
No. 4, Sampaloc	307	154	82	71	77	....	....	225	159
No. 5, Tondo	761	258	83	32	37	....	....	290	120
No. 6, Paco	316	110	53	....	....	16	74	126	127
Total	4,484	824	345	149	196	172	368	1,145	909

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1923

(See consolidated table of mixed vaccination in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	....	....	....	....	591	324
No. 2, Meisic	....	....	....	....	1,616	1,671
No. 4, Sampaloc	....	....	....	....	481	594
No. 5, Tondo	69	480	308	1,793	418	1,463
No. 6, Paco	....	....	....	....	73	30
Division of communicable diseases	....	....	....	....	1,607	154
Total	69	480	308	1,793	4,786	4,236

Districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	....	....	....	....	174	207	....	....	1,296
No. 2, Meisic	....	....	....	....	1,476	1,258	....	....	6,021
No. 4, Sampaloc	....	....	....	....	243	423	....	....	1,741
No. 5, Tondo	207	783	223	1,473	189	1,327	1,539	3,797	3,397
No. 6, Paco	....	....	....	....	36	21	....	....	160
Division of communicable diseases	....	....	....	....	635	417	....	....	2,813
Total	207	783	223	1,473	2,753	3,653	1,539	3,797	15,428

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age. For first and second injections see mixed (typhoid and cholera) vaccinations table.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	818	310	859	382	....	....
No. 2, Meisic	2,851	931	2,328	959	....	....
No. 4, Sampaloc	432	869	572	687	....	....
No. 5, Tondo	10	3	....	....	....	....
No. 6, Paco	109	52	75	38	....	....
Division of communicable diseases	1,774	272	1,646	195	....	....
Total	5,994	2,437	5,480	2,261	....	....

Districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	218	465	140	176	....	....	1,811	1,557	....
No. 2, Meisic	1,563	383	1,113	602	....	....	5,718	5,002	....
No. 4, Sampaloc	322	710	290	601	....	....	2,333	2,250	....
No. 5, Tondo	13	1	....	....	....	....	27	....	....
No. 6, Paco	66	44	54	33	....	....	271	200	....
Division of communicable diseases	889	594	722	536	....	....	3,529	3,099	....
Total	3,061	2,197	2,319	1,948	....	....	13,689	12,008	....

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age. Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923 [1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positives	Negatives	Positives	Negatives
Abra	5,266	188	58	476	268
Agusan	3,841	53	15	102	49
Albay	88,304	3,129	1,094	6,256	2,226
Antique	8,082	1,238	362	1,588	760
Bataan	13,146	298	115	1,332	523
Batanes	1,374	17	8	77	29
Batangas	106,072	1,409	139	3,682	968
Bohol	25,488	1,217	455	2,913	1,005
Bukidnon	4,241	1	1	12	12
Bulacan	27,229	812	104	1,000	310
Cagayan	13,678	756	53	1,367	220
Camarines Norte	1,776	395	174	285	156
Camarines Sur	11,218	810	512	1,429	564
Capiz	12,996	340	109	439	105
Catanduanes	7,452	730	319	402	399
Cavite	17,968	1,128	146	1,637	485
Cebu	66,445	5,130	2,392	4,127	2,443
Cotabato	10,815	102	95	368	490
Culion Leper Colony	43	......	......	......	......
Davao	9,177	......	......	......	......
Ilocos Norte	15,613	1,198	411	2,022	1,413
Ilocos Sur	28,983	2,483	490	4,946	1,976
Iloilo	32,016	1,577	321	2,342	800
Isabela	6,067	197	150	771	619
Laguna	24,809	1,194	287	2,298	580
Lanao	8,927	88	38	337	212
La Union	9,898	374	192	544	529
Leyte	63,411	268	107	927	147
Marinduque	5,979	215	109	649	438
Masbate	6,427	47	24	322	161
Mindoro	8,117	399	206	1,054	582
Misamis	10,209	767	679	1,642	1,221
Mountain Province	12,009	127	80	171	140
Nueva Ecija	13,312	2,352	670	772	641
Nueva Vizcaya	3,865	259	39	436	78
Occidental Negros	25,234	1,619	568	1,789	989
Oriental Negros	76,917	2,378	1,487	6,760	5,439
Palawan	3,515	......	......	......	......
Pampanga	20,112	2,235	418	2,563	818
Pangasinan	63,034	7,398	1,768	7,627	2,532
Rizal	19,840	1,889	374	2,589	815
Romblon	2,665	......	......	......	......
Samar	10,784	470	163	960	476
Sorsogon	6,946	743	250	710	288
Sulu	7,067	250	68	683	324
Surigao	7,830	178	106	1,265	709
Tarlac	95,695	1,686	209	5,686	1,134
Tayabas	17,641	1,530	571	1,843	788
Zambales	5,323	451	144	625	291
Zamboanga	11,633	457	304	416	325
Total	1,058,489	50,532	16,384	80,241	35,422

[1] Compilation of reports received since January up to September.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

TOTAL SMALLPOX VACCINATIONS IN THE PROVINCES FOR THE YEAR, 1923 [1]—Continued

Provinces	5 years and over [3]		Total [2]	
	Positives	Negatives	Positives	Negatives
Abra	1,075	1,120	2,445	2,340
Agusan	700	481	855	545
Albay	17,490	7,985	37,883	19,267
Antique	1,211	1,324	4,037	2,446
Bataan	748	372	5,555	2,650
Batanes	491	254	670	340
Batangas	7,232	11,343	36,262	36,149
Bohol	6,440	3,348	14,821	6,930
Bukidnon	419	449	1,045	1,607
Bulacan	3,972	2,081	14,177	6,126
Cagayan	664	207	9,821	2,218
Camarines Norte	309	384	989	714
Camarines Sur	1,708	1,230	5,742	3,372
Capiz	1,408	746	7,108	3,215
Catanduanes	361	678	2,374	2,398
Cavite	1,825	1,237	10,501	5,735
Cebu	3,404	2,809	27,552	16,859
Cotabato	1,469	2,183	1,919	3,768
Culion Leper Colony	....	....	18	25
Davao	....	....	4,037	4,240
Ilocos Norte	2,283	3,741	6,879	7,171
Ilocos Sur	6,748	4,501	15,122	7,786
Iloilo	2,752	941	14,016	4,780
Isabela	866	1,006	2,077	2,508
Laguna	2,024	1,737	11,462	9,150
Lanao	685	574	3,510	1,519
La Union	586	1,929	2,781	4,621
Leyte	3,280	827	30,143	8,225
Marinduque	1,979	1,561	2,843	2,103
Masbate	773	1,097	1,433	1,626
Mindoro	1,171	803	3,079	2,292
Misamis	1,832	1,210	4,241	3,110
Mountain Province	347	340	4,536	2,774
Nueva Ecija	504	626	6,028	4,993
Nueva Vizcaya	569	199	2,947	794
Occidental Negros	2,057	1,372	13,238	7,358
Oriental Negros	14,058	15,172	29,253	26,327
Palawan	....	....	2,901	1,103
Pampanga	1,728	1,255	7,680	2,978
Pangasinan	10,919	5,594	38,202	15,494
Rizal	2,656	2,580	7,660	4,354
Romblon	....	....	814	402
Samar	1,328	1,181	4,302	2,589
Sorsogon	893	392	3,129	1,636
Sulu	667	427	3,962	2,221
Surigao	1,302	785	3,380	2,727
Tarlac	10,361	9,016	41,424	29,325
Tayabas	3,028	1,521	10,473	4,197
Zambales	1,086	1,250	2,742	2,486
Zamboanga	321	534	3,420	5,253
Total	127,729	100,400	471,488	291,846

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[1] Compilation of reports received since January up to September. Other reports not yet received.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincial Form No. 70.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	4,769	2,775	119	20	......	......
Batangas	619	621	25	......	......	......
Bulacan	158	268	12	2	......	......
Capiz	455	235	196	90	......	......
Cebu	369	366	236	89	......	......
Isabela	45	43	9	15	......	......
Laguna	59	116	3	......	......	......
Misamis	34	81	......	......	......	......
Oriental Negros	53	55	44	72	......	......
Pampanga	138	112	62	40	......	......
Pangasinan	160	87	60	17	......	......
Rizal	56	7	22	3	......	......
Sorsogon	528	303	185	129	......	......
Tayabas	408	318	21	2	......	......
Zambales	171	73	149	64	......	......
Total	8,022	5,460	1,143	543	......	......

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	4,334	2,292	178	88	......	......	14,170	405	......
Batangas	824	530	......	......	......	......	2,594	25	......
Bulacan	114	167	19	3	......	......	707	36	......
Capiz	278	160	66	40	......	......	1,128	392	......
Cebu	235	231	168	107	......	......	1,201	590	......
Isabela	19	29	8	11	......	......	136	43	......
Laguna	36	69	......	......	......	......	280	3	......
Misamis	30	29	......	......	......	......	174	......	......
Oriental	63	42	47	64	......	......	213	227	......
Pampanga	57	95	26	38	......	......	402	166	......
Pangasinan	103	80	54	12	......	......	430	148	......
Rizal	43	8	4	1	......	......	114	30	......
Sorsogon	390	206	119	76	......	......	1,427	509	......
Tayabas	319	282	8	13	......	......	1,327	44	......
Zambales	134	69	115	62	......	......	447	390	......
Total	6,976	4,289	802	515	......	......	24,750	3,003	......

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[1] Compilation of reports received up to September.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	4	14	5	24	40	107
Albay	355	23	237	8	13	3
Antique	139	110	87	118	17	6
Batangas	51	15	30	6	...	...
Bulacan	668	355	439	177	267	99
Camarines Sur	222	68	35	21	8	3
Capiz	12	3	...	...	...	...
Catanduanes	178	44	123	31	...	...
Cavite	231	73	65	44	50	47
Cebu	72	52	38	...	...	...
Ilocos Sur	1,469	329	877	175	690	364
Isabela	28	40	3	26	...	...
Laguna	368	88	194	60	86	45
Nueva Ecija	8	...	...	...	...	...
Oriental Negros	47	13	49	...	11	...
Pampanga	2,089	1,427	1,592	855	595	422
Pangasinan	1,536	1,194	1,116	828	894	691
Rizal	516	144	346	65	141	41
Tayabas	108	31	43	...	...	...
Zambales	1,182	1,132	1,106	889	961	812
Total	9,283	5,155	6,385	3,327	3,773	2,640

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	4	22	4	41	23	99	44	74	269
Albay	218	26	178	22	19	8	622	445	43
Antique	61	46	74	37	13	5	356	316	41
Batangas	69	30	22	5	...	...	165	63	...
Bulacan	584	326	374	178	286	128	1,933	1,168	780
Camarines Sur	152	91	43	14	7	4	533	113	22
Capiz	1	...	...	...	...	...	16	...	...
Catanduanes	67	47	47	19	...	...	336	220	...
Cavite	255	75	54	48	34	46	634	211	177
Cebu	57	35	32	...	...	...	216	70	...
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Isabela	21	32	12	16	...	...	121	57	...
Laguna	261	112	176	62	62	39	829	492	232
Nueva Ecija	3	...	5	...	...	...	11	5	...
Oriental Negros	29	13	22	7	15	7	102	78	33
Pampanga	2,087	1,357	1,465	887	523	476	6,960	4,799	2,016
Pangasinan	1,180	1,097	915	769	784	640	5,007	3,628	3,009
Rizal	419	160	267	76	129	31	1,239	754	342
Tayabas	78	28	25	1	...	...	245	69	...
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	7,667	4,885	5,627	3,184	3,389	2,488	26,990	18,523	12,290

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[1] Compilation of reports received up to September.
Other reports not yet received
A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	107	44	63	287	....	....
Antique	352	243	343	210	32	25
Bataan	284	31	120	16	....	....
Batanes	68	8	11	2	....	....
Batangas	467	242	242	72	....	....
Bohol	195	25	215	6	....	....
Bulacan	96	5	53	5	14	2
Cagayan	431	516	167	20	....	....
Camarines Norte	326	46	134	17	....	....
Camarines Sur	823	225	104	48	....	....
Capiz	10	....	4	....	....	....
Cavite	611	333	304	37	....	....
Cebu	340	63	40	28	....	....
Cotabato	199	104	....	....	....	....
Davao	331	16	248	12	....	....
Ilocos Norte	1,397	813	709	205	....	....
Ilocos Sur	1,745	352	449	146	131	73
Iloilo	1,070	672	1,369	614	....	....
Isabela	121	28	3	....	....	....
Laguna	126	53	32	52	....	....
Lanao	40	15	5	8	....	....
La Union	787	498	363	140	....	....
Leyte	18	2	31	10	....	....
Marinduque	588	322	374	297	....	....
Masbate	357	188	282	91	....	....
Mindoro	246	101	89	21	22	....
Misamis	526	411	271	213	....	11
Nueva Ecija	576	292	520	226	115	23
Nueva Vizcaya	215	170	349	148	15	35
Occidental Negros	13	7	13	7	....	....
Oriental Negros	231	129	35	40	....	....
Pampanga	861	568	353	191	....	....
Pangasinan	416	213	320	180	....	....
Rizal	1,677	914	1,033	706	....	....
Sulu	113	254	18	85	....	....
Surigao	32	1	99	1	....	....
Tarlac	1,104	648	364	289	....	....
Tayabas	1,132	402	232	59	....	....
Zamboanga	44	8	....	....	....	....
Total	18,075	8,962	9,361	4,484	329	169

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[1] Compilation of reports received up to September.
Other reports not yet received.
A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]—Continued

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	57	64	51	256			272	657	
Antique	348	256	198	189	10	34	1,199	940	101
Bataan	222	54	103	25			591	264	
Batanes	55	5	16	3			136	32	
Batangas	522	246	273	112			1,477	699	
Bohol	82	41	97	9			343	327	
Bulacan	23	3	14	3	7		127	75	23
Cagayan	204	361	158	102			1,512	447	
Camarines Norte	191	25	124	18			588	293	
Camarines Sur	601	174	111	65			1,823	328	
Capiz	8						18	4	
Cavite	290	108	220	35			1,342	596	
Cebu	144	50	47	24			597	134	
Cotabato	133	80					516		
Davao	12	10	9	7			369	276	
Ilocos Norte	1,193	867	345	209			4,270	1,468	
Ilocos Sur	1,109	300	481	168	260	91	3,506	1,244	555
Iloilo	829	558	883	510			3,129	3,376	
Isabela	8	22					179	3	
Laguna	56	13	16	55			248	155	
Lanao	3	1	3				59	16	
La Union	709	366	302	133			2,360	938	
Leyte	11	3	15	7			34	63	
Marinduque	424	302	351	449			1,636	1,471	
Masbate	148	175	105	94			868	572	
Mindoro	175	103	68	46	2		625	224	24
Misamis	350	305	·131	109	1	3	1,592	724	15
Nueva Ecija	362	186	347	189	70	8	1,416	1,282	216
Nueva Vizcaya	146	157	154	144	3	33	688	795	86
Occidental Negros	15	3	15	3			38	38	
Oriental Negros	211	95	66	51			666	192	
Pampanga	973	578	505	236			2,980	1,285	
Pangasinan	414	261	338	216			1,304	1,054	
Rizal	1,457	691	976	548			4,739	3,263	
Sulu	87	170	29	75			624	207	
Surigao	28		53				61	153	
Tarlac	795	645	294	265			3,192	1,212	
Tayabas	812	343	160	39			2,689	490	
Zamboanga	18	7					77		
Total	13,225	7,628	7,058	4,394	353	169	47,890	25,297	1,020

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[1] Compilation of reports received up to September.

SMALLPOX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF SEPTEMBER, 1923

(No case and no death reported during the month)

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF SEPTEMBER, 1923

Provinces and towns	Cases	Deaths
Bulacan:		
Sta. Maria	1	
Nueva Vizcaya:		
Bayombong	1	1
Total	2	1

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[1] Suspect.

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF SEPTEMBER, 1923

	Health districts—					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending August, 1923:						
Minor	28	19	22	27	70	166
Sewer	9	57	17	9	5	97
Vacating	....	13	6	2	2	23
Filling	5	2	12	5	4	28
Total	42	91	57	43	81	314
Orders issued during the month:						
Minor	11	6	2	1	1	21
Sewer	1	2	1	....	....	4
Vacating	....	....	....	....	....	....
Filling	1	1	1	1	....	4
Total	13	9	4	2	1	29
Grand total	55	100	61	45	82	343
Orders completed during the month:						
Minor	7	10	4	....	24	45
Sewer	1	2	2	1	....	6
Vacating	....	2	....	....	....	2
Filling	1	....	....	....	1	2
Total	9	14	6	1	25	55
Orders cancelled during the month:						
Minor	....	....	....	....	....	....
Sewer	....	....	....	1	....	1
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	....	....	1	....	1
Orders pending during the month:						
Minor	32	15	20	28	47	142
Sewer	9	57	16	7	5	94
Vacating	....	11	6	2	2	21
Filling	5	3	13	6	3	30
Total	46	86	55	43	57	287
Strong material plans approved:						
New buildings including additions and alterations	27	13	21	20	14	95
Permits for minor building constructions:						
Approved	16	15	34	18	10	93
Disapproved	9	2	4	7	2	24
New buildings completed	9	7	9	10	3	38
Light and mixed material constructions:						
Permits approved	....	....	24	12	26	62
Permits disapproved	....	....	4	2	11	17
Total number of building projects passed upon	51	37	96	69	66	319
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	1	1	....	....	....	2
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	20	39	14	15	6	94
Plumbing projects completed	28	32	30	20	17	127
Premises connected to the sanitary sewer to August, 1923	1,682	2,848	1,072	572	418	6,592
Premises connected during September, 1923	4	11	5	1	1	22
Total	1,686	2,859	1,077	573	419	6,614

Intramuros includes Ermita and Malate; Meisic includes Sta. Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Sta. Mesa; Paco includes Pandacan and Sta. Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III | OCTOBER, 1923 | No. 10

I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.

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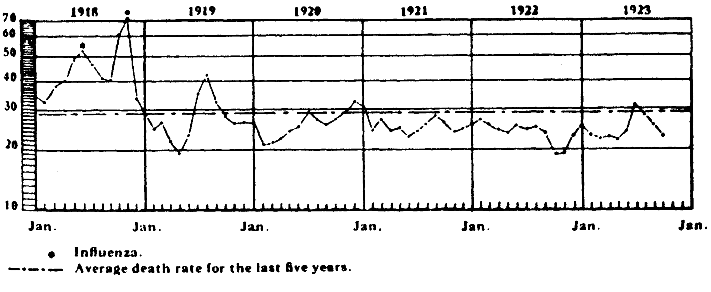
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



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MONTHLY BULLETIN
OF THE
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VOL. III OCTOBER, 1923 No. 10

RESULTS OF THE INVESTIGATION ON THE DYSENTERY SITUATION IN THE PROVINCE OF LEYTE

By DR. REGINO G. PADUA

Senior Surgeon, P. H. S.; Chairman, Committee on Dysentery Investigation

(From the division of communicable diseases)

A.—INTRODUCTORY REMARK

Pursuant to paragraph 12 of Special Order No. 9, of the Director of Health, dated September 10, 1923, a study was made into the dysentery situation in the Province of Leyte. The intensive survey was systematically conducted from September 14 to September 30, 1923, with the kind assistance of Dr. O. Garcia of the Bureau of Science, who was made in charge of the laboratory side of the investigation and of Dr. V. Benitez of the Health Service who was directed to take the clinical histories of the actual cases.

B.—ANALYSIS AND INTERPRETATION OF FACTS

1. THE PRESENT AS COMPARED WITH THE PAST

The disease "dysentery," regardless of the form, has long been existing in the province with an average mortality rate from it, for five years ending 1922, of 5.29 per 10,000 population. Last year (1922), the death rate rose up to 7.41. Up to September 8, 1923, there were recorded 616 deaths from dysentery which represented an annual mortality rate of 13.53 per 10,000 population.

For 5 years ending 1922, dysentery has been contributing 2.54 per cent to the general mortality. During 1922 alone, the deaths from it was 4.22 per cent of the total deaths from all causes; while during 1923, it contributed 7.17 per cent. The mortality rate from all causes during 5 years ending 1922 was 208.15 per 10,000 population; in 1923, 175.60; and in 1923 up to the end of the 36th week, 130.75.

From these figures it is obvious that the general death rates from all causes were gradually decreasing but those of dysentery increasing.

The records of the morbidities could not be relied upon, since the number of cases appeared in many instances is the same as that of deaths. Apparently, the system of notification of the cases was not heretofore complete. The dispensary book was not properly filled up except in Carigara and Polo. In the former municipality, from the week ending June 9th to the week ending August 25th, there were registered 92 cases, 53 of whom were children below 15 years of age; and in the latter, from the week ending April 28th to the week ending September 15th, there were on record 23 cases, 16 of whom were adults.

Of 480 deaths from dysentery in the whole province up to September 8, 1923, 396 or 82.50 per cent were children below 15 years of age; and of the latter, 191 or 48.23 per cent were those of primary-school age (5 to 15 years). In fact, cases of dysentery developed among the pupils and in some schools, the disease became quite prevalent. There were 30 deaths among those under 1 year and 175 among children 1 to under 5 years old.

Geographically, the following comparative table shows the distribution of the deaths from the disease in the province:

TABLE I.—*Mortality rates from dysentery per 10,000 population in each Municipality of Leyte Province.*

Municipalities	Average of 5 years ending 1922	1923 alone	1923[1]
Tacloban	15.84	11.68	10.92
Palo	1.91	19.70	5.11
Tanawan	13.58	23.34	9.31
Tolosa	7.74	21.19	50.10
Dagami	15.01	24.54	7.03
Burawen	2.61	2.11	1.37
La Paz	6.06	15.67	14.16
Dulag	5.93	2.06	2.02
Abuyog	7.84	15.51	1.62
Jaro	5.07	9.16	19.01
Alang-Alang	8.35	19.24	14.92
Pastrana	25.63	75.40	60.05
Carigara	5.51	6.67	32.10
Capoocan	11.39	0	12.83
Barugo	4.79	4.29	39.81
Babatugon	6.02	0	10.42
San Miguel	5.55	1.78	27.94
Biliran	16.18	37.67	0
Caibiran	2.24	2.11	7.52
Leyte	2.94	5.76	10.76
Calubian	7.22	8.04	16.07
Naval	7.46	3.96	55.63

TABLE I.—*Mortality rates from dysentery per 10,000 population in each Municipality of Leyte Province*—Continued

Municipalities	Average of 5 years ending 1922	1923 alone	1923[1]
Kawayan	3.56	0	43.36
Maripipi	7.32	0	15.52
Palompon	2.56	7.54	3.90
Villaba	4.27	4.00	8.74
San Isidro	5.34	2.12	0
Ormoc	1.69	1.85	11.45
Merida	3.48	2.65	0
Albuera	5.33	0	0
Baybay	2.20	2.50	1.22
Inopacan	2.56	1.23	0
Bato	9.05	3.52	2.31
Hilongos	4.41	2.81	13.75
Hindang	11.75	6.43	1.06
Maasin	2.53	.42	0
Macrohon	6.46	0	0
Malitbog	1.61	0	1.76
Sogod	1.48	0	0
Libagon	4.62	3.05	28.61
Liloan	2.80	0.76	0.74
Pintuyan	5.33	8.01	2.23
Cabalian	2.54	0	0
Hinundayan	3.20	0	0
Hinunangan	3.26	1:76	0.87

[1] Up to the week ending September 8, 1923.

Apparently, there were dysentery outbreaks of undetermined character during 1922 in the municipalities of Pastrana, Biliran, Matalom, Dagami, Tanawan, Tolosa, Palo, and Alang-Alang. In fact, several other towns likewise have shown fairly excessive mortality rates from it. On the other hand, during this year up to September 8th, very pronounced death rates occurred in Pastrana, Naval, Tolosa, Kawayan, Barugo, Carigara, and several others. So far, only 10 out 46 towns escaped the dysentery infection in 1923, viz.: Maasin, Macrohon, Biliran, San Isidro, Merida, Albuera, Inopacan, Sogod, Cabalian, and Hinundayan.

A study of the deaths in six municipalities, viz: Tacloban, Palo, Carigara, Barugo, Pastrana, and Naval, revealed that of 313, only 73 or 34.27 percent occurred in the "población," showing that the treatment and control of the disease in the province is in part a rural problem. Nevertheless, the specific mortality rate from it in the "población" was in many municipalities relatively greater than that in "barrios" taken collectively.

Ordinarily, the seasonal prevalence of the dysentery was on the whole during the third quarter. But crops used to appear in the latter part of the second quarter and, if these were not at once checked, epidemics were liable to occur. Such was what might have caused the rapid progress of the infection in some of the municipalities during 1923.

In the average of five years ending 1922, a greater proportion of the deaths occurred in the month of July; on the other hand, during this year, the summit of the curve fall on the month of August. This is shown in the following table:

TABLE II.—*Percentage distribution of dysentery deaths in Leyte Province by Month*

Years	Total No.	January	February	March	April	May	June
Average, 1918 to 1922, inclusive	337.6	7.55	7.94	3.81	7.73	8.12	9.92
1923	584	5.65	7.02	5.31	2.57	7.53	7.70

Years	July	August	September	October	November	December
Average, 1918 to 1922, inclusive	13.21	11.17	8.53	7.34	5.98	5.69
1923	31.16	33.05	....	....	....	....

It was found that the disease has been since the beginning of 1923 lingering in several municipalities—the principal ones being Pastrana, Naval, Ormoc, and Hilongos. In fact, many of the towns along the oriental coast were more or less severaly scourged. The dysentery epidemics developed chiefly in the municipalities of Carigara and Barugo altho lesser outbreaks developed in the municipalities of Jaro, Alang-Alang, Tolosa, Tanawan, Palo, and Tacloban.

The epidemic in Carigara and Barugo started in the beginning of June and lasted till the end of August. During that time, these towns were having mortality rates from the disease per 10,000 population of 117.18 and 147.85, respectively. During the week ending September 8, 1923, the mortality rate in Carigara was reduced to 28.78, and the last death from dysentery in Barugo was reported in the week ending August 25, 1923. For comparison, the death rate from the disease in the whole province during the time of the epidemic in these two towns, was 25.31 per 10,000 population while in the week ending September 8, 1923 such death rate was reduced to 14.34.

2. DIAGNOSIS

The diagnoses of the cases and deaths were taken with "grain of salt." For, of 480 deaths from dysentery (all originally diagnosed by either Municipal Secretaries or Assistant Sanitary Inspectors), only 45 per cent received the confirmation of Health Officers. Thus, more than one-half of the deaths bore exclusively the diagnoses of laymen.

This is indicated in the next table:

TABLE III.—*Percentage frequently of deaths from dysentery diagnosed by laymen exclusively and by doctors in the Province of Leyte.*

Diagnosis	Layman	Doctor	Total
Amœbic dysentery	22.92	77.08	48
Bacillary dysentery	52.69	47.37	19
Dysentery type undetermined	58.84	41.18	413
Total	55.00	45.00	480

Moreover, the accuracy of the specific diagnosis of amœbic and bacillary dysentery made by laymen is hardly conceivable. If, of 264 deaths diagnosed by them, 243 or 92.04 per cent were of the undertermined type, the figure may not be censurable. But, it is astounding to note that of 216 diagnoses made by medical men, only 46 or 21.30 per cent bore the specific diagnosis of amœbic and bacillary forms leaving a large number (78.70 per cent) of dysenteries etiologically unclassified.

The diagnoses of the cases in Leyte Hospital were, to a certain extent, relatively more reliable than elsewhere in the province, for, the laboratory facilities were occasionally utilized to determine the type of the infection. Thus, of 16 dysentery cases admitted during 1922, 11 had laboratory records; and of the latter, 10 bore the final diagnosis of amœbic dysentery despite the negative finding of entamœba histolytica in half that number. On the other hand, up to the time of investigation, of the 34 dysentery cases on record since the beginning of the year, only 9 had laboratory examinations; and of this, 8 were finally diagnosed as amœbic dysenterey altho only 2 of them were positive entamœba histolytica. This is illustrated in the table below:

TABLE IV.—*Number of hospital patients during 1922* (1) *with the final diagnosis of amœbic and bacillary dysentery with and without microscopical confirmation.*

Final diagnosis (charts)	Amœbic dysentery	Bacillary dysentery
1922		
Microscopically positive	5	0
Microscopically negative	5	1
No laboratory examination	4	1
1923 [1]		
Microscopically positive	2	1
Microscopically negative	6	0
No laboratory examination	3	22

[1] Up to time of investigation.

In other words, there seemed to be a tendency of diagnosing any dysentery case as amœbic unles the contrary was proven to the satisfaction of the medical practitioner. For, a careful analysis of the clinical records, of the 14 cases diagnosed as amœbic dysentery during 1922, 6 did not bear clinical findings supporting such a final etiological diagnosis. Similarly, of the 11 dysentery cases diagnosed as amœbic up to the beginning of September, 1923, only 6 were clinically positive for acute amœbic dysentery. There were, therefore, a considerably large proportion of the cases for which emetine hydrochloride was wastefully and uselessly employed and a certain number that might have been perhaps saved, had they been treated as cases of acute bacillary dysentery.

3. STUDY OF ACTUAL CASES AND CONDITIONS

(*a*) *The Specific Infection.*—In view of the prevalence of the disease in quite a number of the municipalities, the investigation as regards the specific infection became significant. The consensus of opinion seemed to have been in favor of the amœbic type as shown above. But, our observation on the clinical course of the disease in some of the actual cases proved conclusively that we were dealing with the bacillary infection. Moreover, an epidemic of amœbic dysentery was hardy thought of to exist if it ever occurred at all.

Neither could the laboratory findings overthrow our "a priori" presumption that the epidemic in question was that of acute bacillary dysentery, for, of the ten cases that came under our observation, four were bacteriologically confirmed as harboring the Fexner organism. There were two cases in which antamœba histolytica were found, but in one of them the dysentery bacillus was also in association and in another the clinical picture was more of acute bacillary dysentery than amœbic. In none of the cases, in which the bacillus could not be recovered from the stool, was the examination made less than three days after the onset of the disease, altho in one instance the Flexner variety was sorologically positive 14 days after the development of the dysentery symptoms. Of the recovered cases in which the bacillus could not be identified, three were strongly positive for intestinal parasites and, in two of these, trichononas intestinal was likewise found. May it not be possible for the latter organism to cause either directly or indirectly some of the dysentery symptoms?

Almost all of the cases responded to anti-dysenteric serum treatment in from 1 to 10 days. In cases of double infection, however, emetin hydrochloride was alternately given. Only one of the ten cases died and that was a 3-year old male child, who was found inmanologically positive for Flexner bacillus two weeks after the onset of his illness. On the other hand, altho the gross post-mortem pathological lesions in a 6-year old female child who died before our arrival were indicative of an acute bacillary infection, yet the bacteriological examination of the intestinal contents proved negative.

(*b*) *The Source and prapagation of the Disease.*—Most of the cases under study belonged to the economically poor families and almost all of them were living in unhealthy surrounding. Ninety per cent of them were from *Tacloban,* i. e., from the "Población" and adjacent "sitios." Seventy per cent were living in houses without sanitary system of sewage disposal, 10 per cent in those with pit closets, and 20 per cent with the dilution method in the small sluggishly flowing stream across the town; none in houses with the Antipolo system. Moreover, altho there were no records, in the town, approximately 272 private Antipolo closets and 26 septic tanks, yet only 5.67 per cent of the population were served thereby. There were only 2 Antipolo toilets for public use.

A definite sector of the "Población," as a representative sample, was surveyed. As regards the cleanliness of the premises, of the houses (including yards) visited, 30 per cent were good, 45 per cent were fair, and 25 per cent were bad. Of these houses, 5 per cent were provided with pit closet, 25 per cent with Antipolo system, and 70 per cent without any system of waste disposal. Incidentally, the last figure coincides with the percentage of the cases living in houses without sanitary toilets. There are, therefore, no sufficient evidences to show that the municipal ordinance for the adequate construction of Antipolo system was fully enforced.

During 1921, there were on records only 2 sanitary markets and 1 slaughter-house in Tacloban—and all without public water supply. No apparent alterations nor improvements to these were made during the year 1922. Similarly, despite the standing municipal ordinance, there were no cars for the collection nor means for the disposition of garbage. Not less than one-fourth of the "Población" was swampy, and flies and other insects were more or less abundant. And, the flies caught around the hospital and public markets were nevertheless found on examination to be carriers of B. coli although cultures for B. dysenteries from them were not successful.

There are no artesian wells anywhere in the town. There were, during the year 1922, 121 insanitary private dug wells serving a population 9,392. Some of these supplied water to the public. All of them, but two, showed on bacteriological examination unsafe for public consumption. The samples taken collectively from the four quadrants of the "Población" were 100 per cent positive for presumptive test and for attempting to isolate B. coli, 50 per cent positive for amœba, 66⅔ per cent positive for ciliates, and all positive for flagallales. The average number of colonies per c. c. ranged from 10,400 to 89,600. In houses, the water supply of which came from the two sanitary dug wells that proved biologically satisfactory, no case of dysentery occurred.

Four of our 10 actual cases were secondary or contact infection. Of the six primary ones, the infection of four were traced to water as the probable source while two to food. Knowing the custom of the people, it is obviously conceivable how the food might have been contaminated by polluted water they used for washing or by their own hand, altho it might be equally possible that indigestion may incite the development of active symtoms among those who harbor latent infection. In this connection, it is interesting to note that out of 18 rectal swab specimens from 40 apparently healthy contacts and 12 cured patients taken at random in 7 different municipalities, 2 were found positive for B. dysenteries; one, of the Flexner, and the other, of the Shiga variety.

C.—DRAWBACKS TO GENERAL SANITATION

1. LACK OF COÖRDINATED FUNCTION

The lack of coöperation on the part of Municipal Presidents with the Presidents of Sanitary Division anywhere is not unproductive of disagreable results. Such condition was found in certain municipalities in Leyte. Sanitary ordinances were consequently difficult to pass thru in the Municipal Council, and even if the former were enacted, the provisions thereof were not in many occasions complied with.

It was noted that of 46 municipalities, only 35 had passed ordinances relative to the construction of Antipolo system of closet; and out of these, only 5 were complying with said ordinance (3 in toto and 2 partially). In the towns of Maasin and Macrohon, where the ordinances was in full availed of, no case of dysentery was registered. In Alang-alang, altho Antipolo closets were installed, many of them were not used by the natives. The municipalities of Capoocan and Palompon where such an ordinance was partially enforced, have recorded relatively fewer cases and deaths from dysentery. On the other hand, in those municipalities in which the ordinance was ignored, dysentery was prevalent thruout the year, hence, in some, it occurred in epidemic form. In Carigara where the ordinance was passed and complied with thru the insistence of the Provincial Governor during the last epidemic, the latter was curtailed and abated in a relatively short period of time. On the other hand, in Tolosa where not a single Antipolo system of closet is in existence despite the passage of the ordinance five years ago, the disease is still lingering and may at any time set up a new outbreak.

In the whole province, 4,547 closets of the Antipolo type and 360 septic tanks were, according to records, in operation during 1922 for private and public use. If 62,269 people were thereby served (or one closet for every about 13 persons), then only 9.47 per cent of the whole population used sanitary systems of sewage disposal. This left a large proportion of the population (90.53 per cent) disposing their excreta on the bare mother earth.

Another lamentable condition resulting from the lack of coöperation of the municipal officials and the municipal health authorities, was the failure of establishing potable public water supply. As has been previously stated, all the superficial dug wells investigated, except two in Tacloban, were found polluted and contaminated. Many of them were dug on the banks of rivers, the water of which communicated directly to the wells. There were 910 such wells used by populations of about 122,681, or one well for every 135 persons. Conscious of the habit of the people in dipping their hands to get the water, it is clearly seen how the latter becomes contaminated. Moreover, a large number of the wells especially those in the barrios are unprotected from the access of any animal.

There were only 12 artesian wells for public use in the province, seven of which are situated in Ormoc and five in Baybay. Few cases of dysentery occured in Baybay and the cases in Ormoc were mostly from the barrios and in communities not supplied by artesian well water.

Ordinances for the collection and disposal of garbage were passed in 26 municipalities but only 4 were complying with them, viz.: Maasin, Merida, Carigara, and Tanawan. Only 9 public markets in the whole province were in operation in 1921, and all but 2 were not provided with water supply. Similarly, there were 11 slaughterhouses, but only 3 were supplied with water for cleansing. There were no additional improvements along these lines in 1922.

2. DEFICIENCIES IN THE SYSTEM

The health personnel in the province complained of too much paper work. The filing up of forms and making of reports took most of their time which should have been spent for inspection and other sanitary purposes. In the opinion of the writter, however, much of the deficiencies lie in the lack of adequate training on the part of the Sanitary Inspectors.

As has been previously stated, cases of communicable diseases were not notified to the health authorities—they were recorded as such when the burial permits were requested. And then, the Municipal Secretaries or Sanitary Inspectors would fill up Provincial Form No. 75 after the week and with data either from memory or what not. The diagnosis was bound to go astray as has been, in many instances, observed by the writer on getting data in houses where the deathsoccurred. With this system, 3 if it continues, the morbidity and mortality statistics would become lamentably distorted.

3 OTHER MISCELLANEOUS DIFFICULTIES

Briefly, the other factors tending to retard directly or otherwise the successful progress of sanitation in the province may be mentioned:

1. The lack of transportation facilities, since many of the barrios were almost inacessible to Presidents of Sanitary Divisions and Sanitary Inspectors.

2. The lack of sanitary conscience and education on the part of the general public. For, altho principles of sanitary science were taught in public schools, these were not observed nor practised by the pupils in their own homes. Moreover, in several school buildings visited, there were no sanitary latrines nor potable drinking water for the use of the school children.

3. The low wages of the health pesonnel as constantly complained of not only in Leyte but elsewhere in the Islands.

D.—REMEDIAL MEASURES ADOPTED

Since isolation of dysentery cases, essential in time of impending epidemic, was not practicable among the ignorant masses, efforts were made to hospitalize them. They were therein accurately diagnosed and properly trated. The premises where the cases or deaths occurred were disinfected and adequate advices given to the entire household.

Efforts were similarly directed to the obtaining of coöperation and interest on the part of the municipal councils and other officials thru the Municipal Presidents to public health activities. After presenting before the Regional Convention of the latter, called by the Provincial Governor, the urgent necessity and practical benefits derived from a conjoint and concerted action for the betterment of general hygiene and sanitation, it was unanimously pledged in formal resolution that they will support the campaign and measures purported to the immediate establishment of potable public water supply and the construction of sanitary system of sewage disposal in their respective municipalities.

Then, the series of recommendations by the Committee on Investigation were drawn for the further curtailment of the disease in the province, copies of which were left to the District Inspector and District Health Officer for execution in a manner they think best. One original copy was submitted on October 3, 1923, to the Director of Health.

E.—SUMMARY

1. An investigation on the prevalence of dysentery in Leyte Province was conducted during the last half of September, 1923. The result showed that the death rates from it were, for the past five years, increasing altho the mortality rates from all causes were decreasing. The morbidity figures were unreliable since the living cases were seldom if ever notified to the health authorities.

2. A great proportion (82.50 per cent) of the deaths occurred among children below 15 years of age, and many of these were public school pupils.

3. Very marked death rates from dysentery were noted, since the beginning of the year up to September 8, 1923, in Pastrana, Naval, Tolosa, Kawayan, Barugo, Carigara, and several others. No cases were reported in only 10 out of 46 towns. True epidemics developed especially in Carigara and Barugo.

4. The disease was prevalent during the third quarter of the year. In fact, the summit of the curve fell on July and August.

5. The diagnoses of the dysenteries were not very reliable, for approximately 55 per cent of them were made by Municipal Secretaries or Assistant Sanitary Inspectors, or both. And even among those diagnosed by physicians, only 21.30 per cent were classified into amœbic and bacillary. In the charts of Leyte Hospital, the clinical and laboratory findings did not in quite many instances warrant the final diagnosis. There seemed to be tendency of diagnosing any amœbic dysentery unless the contrary was proved.

6. The clinical picture of the actual cases was that of acute bacillary dysentery. The bacteriological and serological findings confirmed this diagnosis. There were, however, few cases in which entamœba histolytica was found in the stool but B. dysentery was also in association in some of them. Therapeutically, all the cases yielded, in from 1 to 10 days, to injections of anti-dysenteric serum.

7. The source or origin of the infection was investigated in the municipality of Tacloban where most of the actual cases occurred. As a result, it was found that a large proportion of the houses were not provided with closets—the excreta was deposited anywhere in the yard on the surface of mother earth. In houses provided with Antipolo closets, no case of dysentery occurred; on the other hand, about 70 per cent of the cases were living in houses without sanitary sewage disposal system. Moreover, the general sanitation of the town was apparently lagged.

8. The infection in Tacloban was propagated by polluted and contaminated water. The water analyses made on a large number of samples showed that they were non-potable. The cases of dysentery occurred in houses supplied by water from open surface dug-well, while no case occurred in those, the water of which came from the two sanitary dug wells and proved biologically safe for human use. Some of the cases, however, were secondary to previous ones while others acquired the infection perhaps thru food or flies alighting on their food.

9. There were drawbacks to general sanitation. The lack of coöperation on the part of the Municipal Presidents and Councils was not destitute of harmful results. Eleven municipalities have not yet enacted ordinances for the construction of Antipolo system of closet. Of the 35 municipalities in which the ordinance was approved, all but 5 were not complying with it. As a result, about 90.53 per cent of the population of the province was not using sanitary sewage disposal system.

10. This lack of coöperation has similarly lead to the failure of establishing potable public water supply. For, there were only 12 artesian wells in the whole province, all situated in only two towns. There were altogether 910 surface dug wells many of which were located on the banks of rivers and communicated directly with the river water. Since one well was used by about 135 persons, the chances of pollution and contamination were thus great.

11. Many of the Assistant Sanitary Inspectors in 8 municipalities along the oriental coast were found deficient, due perhaps to insufficient previous training. As a result, the cases of com-

municable diseases were not immediately notified to the health officer and in many occasions their reports were not reliable.

12. Other obstacles to the progress of sanitation in the province were: (*a*) lack of transportation facilities, (*b*) lack of sanitary conscience and education, and (*c*) low salaries and appropriations..

The remedial measures adopted were: (*a*) hospitalization and treatment of the cases, (*b*) disinfection of the premises where the cases or deaths occurred, (*c*) obtention of the support and coöperation of the municipal presidents and councils in the campaign for an immediate installment of potable public water supply and sanitary system of sewage disposal, (*d*) the coördination of the work so as to utilize all possible agencies in the municipalities, and (*e*) the drawing of recommendations for the further curtailment of the dysentery in the province.

But before concluding, the selection and training of suitable personnel for every particular branch of public health work is, in the opinion of the writer, an essential remedial measure to subsequently do away with avoidable and unnecessary errors.

Thanks are due to the Hon. Provincial Governor and the Provincial Treasurer for their hearty support and coöperation in the recent investigation and campaign. To the District Health Officer and subordinates, the writer is personally indebted for their kind and valuable assistance in the collection of materials used for the present study. And to the fellow members of the Committee, on acknowledgement is hereby made that their inestimable service have made possible whatever credit may be had on the success of the investigation.

SANITATION AND PUBLIC HEALTH ADMINISTRATION IN THE MOUNTAIN PROVINCE

By PACIFICO LAYGO, M. D.

1. SUBJECT MATTER

The present report contains observations and findings on specific features of sanitation and public health administration in the Mountain Province, as were unfolded in the course of an inspection trip undertaken by the undersigned in compliance with Special Order No. 4, Paragraph 13, of April 17, 1923, and in company of Col. Lucien Sweet, P. C. and Lt. Osborne Wood, U. S. A., throughout the Ilocano country and across the highlands of Amburayan, Lepanto, Bontoc, and Benguet, a trip which involved 460 kilometers of auto travel and 278 kilometers travel along mountain trails. The kilometerage, including trips from Manila to Baguio and back, reached a total of about 1,290 kilometers covered between April 18 and April 30, inclusive.

2. GENERAL CONSIDERATIONS

The conditions found in the highlands are at absolute variance with those obtaining in the civilized lowland communities in point of climate, political organization, economic aspect, and social culture.

The climate, with the exception of a few low-lying river basins, is cool and healthful. Altitudes higher than 3,000 feet are positively tracing. The water supply in most of the highland villages is derived from pure, unpolluted mountain springs, and the usual daily diet of the mountaineer is vegetarian. There is very little level ground on the land, and most of the tilled soil being man-made and built by terracing the steep mountain sides. The struggle for life is therefore hard amongst these people, the adult population representing nothing less than a veritable survival of the fittest. Under such conditions, the average Igorot develops himself into a healthy, stocky, strong-limbed, hard-working, frugal man. Here, however, his good qualifications from the sanitary standpoint end. With the exception of certain clans (Kalingas), the average mountaineer lives in dirty if not squalid surroundings. Lack of ventilation and bathing facilities, deficient heating arrangements, faulty sleeping accommodations, and insufficient light constitute the features of the average Igorot grass-shack home. Pig raising in the house premises is an institution. Human and other ex-excreta are saved for fertilizing the man-made rice paddies. As to the Igorot's personal habits, these perforce are a counterpart of his surroundings. He is troubled with the least amount of clothing and cares not for baths; at day-time he is dirty and reeking with sweat; at night he is sooty besides. The Igorot's supine ignorance of the elementary rules of hygiene has thus become proverbial.

The peculiar conditions in the Mountain, Province have created peculiar health problems. Here we are not so much concerned with the routine measures for preventing and controling a host of diseases of frequent occurrence in the lowlands. Our activities simmer down to adequate provision of medical relief: control of the few preventable diseases prevalent in the district—malaria, yaws, tinea, acute respiratory diseases, etc.; continuous persistent instruction of the mountain people in correct living; and correction of certain organic and administrative defects found in the present mountain health administration. The findings and recommendations will be given under the above general heads.

3. FINDINGS AND RECOMMENDATIONS

(*a*) *Medical relief—Hospital service.*—As compared with the lowland provinces, the hill country is certainly better off with regard to hospital accommodations. The hospitals at Baguio, Kianga, Bontoc, and Lubuagan are doing excellent work, although their possibilities for doing good have not been fully made use of. More of the sick should be brought to these institutions of relief. It is estimated that less than 20 per cent of those in need of hospital treatment enter these mountain hospitals. Greater publicity should be made of the facilities for treatment which such hospitals can give to the hill folk, their superstitions, customs, and prejudices notwithstanding. Tact, persuasion, and persistent effort are required to better down local ideas regarding illness and its causation and treatment.

The Baguio Hospital should be moved to another location, and new buildings erected. Geologically, the present location is highly dangerous in view of the possibility of future soil subsidence.

The Kiangan Hospital is in need of repairs and more equipment.

The Bontoc Hospital should be provided with another physician. The present medical staff is insufficient.

The Lubuagan Hospital lacks accommodation, equipment, and proper operating facilities. Prompt action is recommended in the case of this hospital.

Dispensary Service.—As a whole, the dispensary service in the various municipal districts or "rancherias" is poor. It is recommended that a process of elimination of incompetents be made of the present personnel, those remaining to be reassigned and given "refresher" instructions, and steps taken to provide each dispensary with proper equipment and the necessary supplies.

(*b*) *Control of Prevalent Preventable Diseases.*—Field dispensaries should be organized for the control of malaria and yaws and efficient men placed in charge of same. Two units are needed in the Apayao country, one for the Abulug River Basin and another for the Chico River Valley, Kalinga and Bontoc should have one unit each, the Kalinga unit for service around Tabok, Balbalan and Pinukpuk on the upper Chico River Basin, the Bontoc unit to be detailed in the district of Natonin and the lower reaches of the Kadaklan River. With proper equipment and sufficient supplies such units should be able to render an immense amount of relief work in the malarial and yaws infected districts of the Mountain Province.

These same units can do concurrent work in the control of tinea infestation, in the reduction of acute pulmonary ailments, and in general health educational activities.

(*c*) *Health Education and socio-economical uplift of Igorot communities.*—The Filipino highlander constitutes a problem, and an intricate problem at that. Possessed as to Igorot is of many good qualities—hard-worker (probably the hardest working inhabitants of the Philippines), frugal, true to his given word, etc.—he is however steeped in ignorance backed by age-old traditions and more or less foolish supertitions and barbarian customs. His habitat is a barren land, out of which he barely ekes out a living. Above all, he is burdened with no elementary notions of hygiene. In the words of Colonel Munson, our highland brothers should not be considered as a sort of poor relations, whom instinctively we would rather relegate to the background. Assuredly such a course of action would hardly be humanitarian to say the least. We shall therefore have to fact the problem in a straight forward manner, and try to evolve a practical solution therefor. The socio-economic aspects—general education, introduction of new crops, migration of clans from overpopulated districts to the highlands of Mindanao, etc.—leave we must to the Central Government, but we can and should certainly do something towards unparting even elementary health education amongst the Igorot peoples. With the young, the work should not prove specially hard; already a good many of them come to our mountain hospitals in quest of medical attention. A greater amount of instruction for such class is now in order. With the old generation, considerable test and understanding of the "kinks" of their reasoning process must however be exercised. Would recommend that the District Health Officer devise a scheme of health education for the mountain fold, suitable to the local conditions, and in full harmony with such measures as other Government agencies may see fit to take in connection with the socio-economical features of the Igorot problem.

In this connection special mention must be made of pig raising, which has become an institution amongst certain Igorot clans. In the Bontoc villages, their houses and pig-styes lie side to side, human dejecta being directly deposited in the pig pens together with leguminous plants, primarily to serve as pig feed, later to serve as fertilizer in the form of manure. While such a practice may not prove directly deleterious to health, pathogenic bacteria being destroyed in the process of manure formation, yet it gives an abominable appearance to these villages and a still more abominable stench. These same Bontocs have a penchant for community scheme—community hours, community planting, etc. Would recommend that the District Health Officer be directed to devise a scheme whereby communal pig-pens are established in accordance with the known tribal community forms.

(*d*) *Readjustment of Health Jurisdictional Areas.*—(1) The municipal districts of Cervantes and Angaki which have been annexed to Ilocos Sur should be returned to the health jurisdiction of Bontoc, and a medical health officer detailed at Cervantes. The health needs of these districts can be supervised from Bontoc better than from Vigan about 160 kilometers distant. Cervantes is only 50 kilometers distant from Bontoc, this distance being easily traversed in one day, on horseback. The Cervantes—Vigan trip requires at least two days, 69 kilometers on horseback along mountain trails, the rest of the distance being connected with first-class road along the Ilocos coast. At all events, a medical officer should be detailed at Cervantes.

(2) The Apayao country should be placed under the jurisdiction of the District Health Officer of Cagayan. From Tuguegarao to Cabugao, the capital of the sub-province the distance is 129 kilometers, 30 on second-class road, the rest along mountain trails, 233 kilometers of mountain trails separate Bontoc from Cabuyao on the other hand. There is therefore a net difference of 104 kilometers in favor of Tuguegarao. Cabugao can be reached from Tuguegarao in three days; from Bontoc in nine days, allowing for necessary rest and change of horses and porters. Cabugao may also be reached from Aparri, Cagayan in four days' travel, by land from Aparri to Abulug, and by river transport from Abulug to Cabugao up to the River Abulug. The inclusion of Apayao under the health jurisdiction of Cagayan, if feasible, would prove conducive to efficient health administration.

(*e*) *Improvement of system of shipment and transport of medical supplies for the Mountain Province.*—Supplies for the different health outposts in the Mountain Province take too long a time to reach their destinations. This is the general complaint heard from the health officials detailed in the highlands. Would recommend that arrangements be made whereby supplies for Lepanto, Bontoc, Kalinga, and Kiangan be shipped monthly to the District Health Officer of Bontoc, via Tagudin and Cervantes, and in care of the health officer of Tagudin, who will see to their speedy transport to Bontoc. Once at Bontoc, the District Health Officer should see to the prompt distribution of the supplies to their different destinations. Supplies for Apayao should be shipped via Aparri, and in care of the health officer of Aparri who will see to their prompt transshipment to Cabugao, from Aparri to Abulug and up the Abulug River to Cabugao. With good connections, supplies can reach Cabugao within five days after being landed in Aparri. Supplies for Benguet should be sent direct to the Sub-District Health Officer at Trinidad.

4. MISCELLANEOUS MATTERS

(*a*) *Distribution of medicines.*—The undersigned brought five lots of first-aid medicines along. Two of the lots were forwarded to Cabugao in care of the Provincial Commander, who has been entrusted with its distribution. Another lot was entrusted to the Provincial Commander of Bontoc for distribution in the malarial district around Natonin. The other two lots were left with the District Health Officer at Bontoc for distribution in Kiangan and Kalinga.

(*b*) *Sanitation of rest-houses.*—A number of rest-houses were found unprovided with sanitary toilet accommodations. The stock of first-aid medicines was also found insufficient in almost every rest-house. With the exception of the rest-houses of Cervantes and Bontoc, no bathing accommodations are offered to travelers. Would recommend that the District Health Officer be directed to exercise more vigilance over the rest-houses, and should see to the provision of Antipolo closets and bath-rooms for such rest-houses as have no water connection, and the stock of first-aid medicines to be kept refilled regularly for the convenience of the wayfarers who secure lodging in the rest camps.

(*c*) *Salaries of personnel.*—In view of the isolation of the Mountain Province in posts and the conditions of work and of travel peculiar to that region, it is recommended that the salaries paid to the personnel detailed in the province, including medical officers and subordinate employees, be given on such a basis as would offer some measure of allurement to all concerned. A sursalary of 15 per cent for employees drawing less than ₱2,400 per annum, and of 100 per cent from ₱2,400 up will almost cover the requirements of their case.

CLOSING ADDRESS

By Dr. VICENTE DE JESUS

Director of Health at the First Central Luzon Health Officers Assembly Held at Manila, May 21–23, 1923

LADIES AND FELLOW-OFFICERS:[a]

I shall begin by stating that my name is not listed on the program, but, I desire to address a few remarks that I may, as duty-bound, convey to you my profoundest gratification in seeing so many health officers of Manila and from the provinces assembled here.

Again, I wish to congratulate you for the creditable work done by the Assembly, which is but the forecomer of others that we shall hold at Baguio in the future similar to the conventions which Government teachers and engineers attend every year in that beautiful highland city. Barring unforeseen events, we shall foregather at regular intervals at the summer capital, there to refreshen our stock-knowledge and to devise improved means for safeguarding public health to such an extent as would insure the physical efficiency of the Nation and would afford adequate health protection to the foreigners who dwell in our land temporarily or otherwise.

I wish specially to call your attention to Act No. 3079. The law as finally passed by the Philippine Legislature is now an integral part of our statute books, and as such and as behooves law-abiding citizens, the act should be accorded due respect. Held that it is unnecessary, unwise, unjust. We can punish, as an influential group of the electorate, our prevaricating legislators by never casting our votes again in their favor, but so long as a law remains in the statute books of the country, so long must it exact obedience and respect. No member of the Philippine Health Service favored the enactment of such a law. I, personally, and together with the chiefs of divisions, voiced protests and submitted arguments as to why such a law should not be enacted. But all to no avail. But it could had been worse. The intention at first was to do away with examinations altogether, but this feature has been eliminated finally. Under the new law, the Service is undoubtedly held open to political intrusions. However, so long as I hold the post of Director of Health, I solemnly promise that the Reorganization Act of 1915, which is also an integral part of our statute books, shall govern all promotional appointments and these will invariably be for the benefit of deserving officers with satisfactory and clean service records and not for political protégés from the outside.

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[a] Red Cross Nurses present. At the beginning of address, audience was requested by the Director of Health to stand for a full minute in token of condolence for the death of a member of the family of Dr. Salvador V. del Rosario, Assistant Director of Health.

A few words with regard to the presidents of sanitary divisions, the outpost officers of this Service. Our local health officers serve as connecting links between the provincial health authorities and the masses of population of our provincial communities. Verily, they are the basic stones of our health organizations, without whose concourse it is impossible to undertake municipal sanitation work. The presidents of sanitary divisions may well ask themselves why they are paid so poorly granted that they are necessary factors in municipal sanitation. As a matter of fact, their emoluments are beggarly, to say the least! One hundred pesos monthly on the average. Efforts have been exerted and are being exerted, and we shall continue exerting toward securing for municipal health officers an initial pay of ₱200 monthly. Under such pay, however, private practice will not be permitted. I am in favor of such a restriction, but only in part, in the sense that health officers should not be allowed private practice where the services of other physicians are available and that, in communities where the health officer is the only medical practitioner thereabouts, private practice may be allowed under certain conditions.

Apropos of hospitals. You of course are all familiar with the fact that, from the beginning of American occupation, it has ever been the policy of the insular health service to consider preventive measures as the primary motive of public health administration, curative medicine being given a secondary rôle. No one can gainsay, on the other hand, that hospitals do play an important part in health work as a complementary activity and a powerful aid in attaining the ultimate ideals of public health. Hospitals serve likewise to arise public opinion with regard to the necessity for the rational treatment of human ills, its wards being the thresholds wherein physicians and surgeons receive the finishing touches of their medical education, without which they could ill afford to go forth to the world and practice their chosen profession. The above notwithstanding and despite my firm belief in the possibilities of hospitals, yet, I must insist that our mission as health officers consists, in the main, in the prevention of disease, in furthering the ideals of the new public health, as conceived by the Anglo-Saxon peoples, and which summarized in as few words as possible, means just right living,—cleanliness in body made a habit, provision of pure water supply, proper disposal of excreta, hygienic homes, well-balanced diet without which body resistance against disease cannot be secured.

In closing, allow me to impress upon you the necessity for maintaining the proper sense of proportion in dealing with public health policies never losing sight of the relative values that must be given to the various health activities. Under the circumstances, I must enjoin of you to give whole-hearted support to the existing hospital policy, in so far as it may serve our primordial ends as health officers; in so far as hospitals may serve to awaken in the public mind the sense of fitness with regard to proper scientific medical attention as compared with the rudimentary arts of the "curandero" or medicine-man; and in so far as the existence of up-to-date hospitals, in as many provincial capitals as can be provided with such institutions with the resources on hand, shall serve as a gauge of the progressive spirit of the Filipino people and of the open-handedness of this Government in matters concerning public health.

I thank you for your kind attention.

MISCELLANEOUS

DYSENTERY IN LEYTE

Doctors Padua of the Division of Communicable Diseases and Garcia of the Bureau of Science returned from Leyte on the S. S. *Sontua* on October 2.

Doctor Padua reports that dysentery still exists, but now in endemic form, in the Province of Leyte. In the recent intensive investigation in eight municipalities along the oriental coast, it was found that the disease became epidemic especially in the municipalities of Carigara and Barugo. But with the sanitary measures and general campaign undertaken by the sanitary personnel of the province together with the hearty coöperation of the Provincial Governor and Treasurer as well as the Municipal Presidents, the epidemic could be controlled.

During the epidemic, Carigara and Barugo have had mortality rates, per 10,000 population of 126.20 and 159.22, respectively. During the week ending September 8, 1923, the mortality rate in Carigara was reduced to 28.78 per 10,000 population and the last death in Barugo was reported in the week ending August 25, 1923. For the purpose of comparison, the mortality rate from dysentery in the whole province during the time of the epidemic in these two towns was 25.74 per 10,000 population while in the week ending September 8, 1923, the mortality rate was reduced to 14.24.

Among the few towns where dysentery did not occur may be mentioned Maasin and Macrohon. In these two towns sanitary ordinances were enacted and complied with. Moreover, the Municipal Presidents and Municipal Councils coöperate and assist the Presidents of Sanitary Divisions.

It was also found during the course of the investigation that the cases were in the majority of the bacillary type. There were few cases of amœbic dysentery but these had also the double infection.

The source of the epidemic was apparently contaminated water consumed by the public. There were, on the whole, no sanitary well and no sanitary methods of sewage disposal. As a remedial measure to this lamentable situation, a resolution was passed by the Municipal Presidents of the Oriental Coast which is hoped to provide for a concerted action between the municipal authorities and Presidents of Sanitary Divisions. The outlook now is somewhat promising and if the recommendations of the Committee on Investigation are followed, there is no doubt that dysentery may become reduced to the minimum in the province.

As a part of the dysentery campaign the following program was undertaken on September 25:

9 TO 12 A. M., SEPTEMBER 25, 1923

1. Address of Welcome and Toastmaster, Hon. Provincial Governor.
2. General Sanitation in the Province, Dr. Jose A. Vidal.

3. Dysentery, its mode of transmission and supression, Dr. Vicente Kierulf.
4. Results of the Dysentery Investigation and practical suggestions, Dr. Regino G. Padua.
5. Address, Member Veloso, Provincial Board.
6. Address, Mr. Andres Batan, Municipal President of Jaro.
7. Address, Mr. Eustaquio Ligutan, Municipal President of Carigara.
8. Lunch given by Hon. S. K. Demeterio at his residence at noon.

2 TO 5 P. M., SEPTEMBER 25, 1923

9. Visit to the Provincial Hospital.
   Laboratory demonstrations by Dr. Onofre Garcia of the Bureau of Science.
   Visit to the Leprosarium.
   Visit to a sanitary closet.
   Visit to a sanitary dug well.
10. Banquet at "Pettit Earnest Hotel" given by the Health Officers at 6 p. m., September 25, 1925.

YAWS IN CAMARINES SUR

The District Health Officer of Camarines Sur reports that from June to October 1, a total of 1,810 persons were treated with neosalvarsan, of which 1,105 were children and 705 were adults; and 2,110 intravenous injections were performed.

The people who received the injections were distributed in various municipalities as follows: Caramoan, 882; Lagonoy, 578; Iriga, 100; San Jose, 86; Buhi, 60; Nabua, 56; Bato, 23; Sagnay, 11; Goa, 10; Tigaon, 3; and Naga, 1.

Yaws clinics were conducted in the municipalities of Caramoan and Nabua following the requests of the municipal councils. The District Health Officer is requesting another supply of 500 ampules of neosalvarsan to be used among the new cases in these municipalities.

WARRANTS FOR HOSPITAL CONSTRUCTION

Doctor Orosa, Acting Chief of the Division of Hospitals, Philippine Health Service, and Member of the Hospital Committee, has been advised by the office of the Governor-General that warrants have already been issued to the following provinces as aid for the construction and equipment of hospitals:

Batangas	₱4,020.00
Ilocos Sur	4,020.00
Laguna	4,020.00
Occidental Negros	25,106.00
Tarlac	26,739.75
Tayabas	36,094.25
Total	100,000.00

YAWS CLINIC IN SULU

The District Health Officer of Sulu reports that the Moros in his district, especially those living outside the City of Jolo, who are believed to be most refractory to law and order and holding fast to their customs and habits, are now beginning to realize the importance of modern medicine. They come to the town from their mountain and country abodes in great numbers when they learn that neosalvarsan is the most effective drug for yaws, which is furnished free by the Philippine Health Service. Just as soon as news is spread that a yaws clinic will be held at a given place and date, those having yaws will immediately present themselves for treatment.

During the month of August, 524 persons were given intravenous injections, distributed in the various places as follows: Maimbung, 208; Parang, 231; and Sulu Public Hospital, 85.

DOCTOR MANALANG BACK FROM AUSTRALIA

Dr. Cristobal Manalang, Philippine Health Service delegate to the Second Pan Pacific Scientific Congress, returned on the S. S. *St. Albans* on October 6 with other Philippine delegates.

Doctor Manalang states that during the opening of the Congress in Melbourne on August 13, he discussed the parasitological problems in relation with man in a joint meeting of the section of zoölogy, entomology, and veterinary science.

On August 15, a paper on the hookworm situation in Australia, New Guinea, and Papua was read by Doctor Sweet, Director of the Australian Hookworm Campaign of the Rockefeller Foundation. Doctor Manalang also read a paper prepared by Professor Houghworth of the Bureau of Science during that date.

On August 21, he read two papers,—one on the condition of the hookworm campaign in Cebu and another on the effect of carbon tetrachloride on the intestinal parasites. Papers on sanitation of the mines, malaria, leprosy, and yellow fever were heard.

The Philippine delegates also visited several government laboratories, hospitals, and sanitation of various places.

In the closing of the general session of the Congress, the Section of Hygiene presented a resolution to the effect that the scientific problem of the Pacific, which stands first in urgency, is the preservation of the health and life of the native races by the application of the principles of the science of preventive medicine and anthropology. The resolution was unanimously approved.

DOCTOR OROSA BACK FROM TARLAC

Doctor Orosa, Acting Chief, Division of Hospitals, Dispensaries and Laboratories, returned on October 8 from Tarlac having inspected the hospital now under construction there. He reports that the hospital is now 90 per cent finished, and the District Engineer of the province has assured him that he will be able to turn the Tarlac Provincial Hospital over to the health authorities on October 16.

DOCTOR FAJARDO ON INSPECTION TO THE NORTHERN PROVINCES

Doctor Fajardo, Chief, Division of Provincial Sanitation, left for an inspection trip in the northern provinces in company with the Governor-General on October 7. He is expected to return in about eight days.

MALARIA CAMPAIGN IN PAMPANGA

Sanitary Engineer Tiedeman of the Rockefeller Foundation reports that the usual observations in connection with the malaria survey in Pampanga in coöperation with the Philippine Health Service have been maintained in September; the control at Prado has been continued, and the residents of another small barrio, Anoun, have been examined and put under observation.

He further reports that the main drainage work at Prado has been completed. A small stream running thru the barrio has been deepened, confined to a narrow channel, and the seepage outcrops along its banks confined to ditches. The other breeding places within flight range of the houses will be taken care of by means of larvacides.

He plans two other experiments in control which he states he should be able to get under way during this month.

DOCTOR INTENGAN'S REPORT FROM JAPAN

Doctor Intengan of the Philippine Health Service, In Charge of the Filipino doctors for Japan relief work, reports that the contigent of Filipino doctors arrived safely in Japan.

He states that all doctors, nurses, and other members of the Japanese Relief Work received anti-typhoid, cholera, and smallpox vaccinations aboard the U. S. A. T. *Merritt*. He states that a sort of uniform has been recommended to Colonel Munson to be used by Filipino doctors and dentists while on duty.

Dr. Jose Sian was appointed assistant to Doctor Intengan and the other doctors were distributed to the different branches of the relief work in accordance with their specialties.

MR. MAÑOSA'S TRIP TO ILOCOS SUR

Mr. Mañosa, Acting Chief of the Division of Sanitary Engineering, left for Ilocos Sur on October 13 to inspect the hospital site at Vigan. He will return within a week.

CONSTRUCTION OF NEW HOUSES IN MANILA

The Division of Sanitary Engineering of the Philippine Health Service has reported that for the month of September 132 applications for construction of houses of strong material and 80 of light material were authorized.

DOCTOR FAJARDO BACK FROM INSPECTION

Doctor Fajardo, Chief of Provincial Sanitation, returned from inspection in the northern provinces on October 14. On his return, he parted from the party in company with the Governor-General at Currimao, Ilocos Norte.

Doctor Fajardo reports that the town of Aparri is 100 per cent improved. The streets are clean and no pigs run about. The same is true in Ilocos Norte and Ilocos Sur. The total and infant mortality have decreased considerably in those two provinces as compared with those of last year. The same thing may also be expected in many other provinces. On the other hand, he saw some poorly-equipped dispensaries due to lack of medicines, and this, in turn, to lack of funds.

Doctor Fajardo also reports that a systematic smallpox and antityphoid vaccinations are being undertaken in Cagayan. In a very remote barrio of Buguey of this province about thirty-six miles from the Pacific coast, the children show fresh marks of vaccination.

NUEVA ECIJA MENACED BY GOITRE

There is a great prevalence of preventable goitre in the municipality of Papaya of the Province of Nueva Ecija, and forty-eight cases were found so far. It exists more among adults than children and oftener among females. It is believed that it is caused by the deficiency of iodine in the soil, foods, and drinking-water.

The thyroid gland is an organ that is situated on either side of the larynx or windpipe and is united by an isthmus over the windpipe. It is composed of little sacks of various sizes and shapes. These sacks are generally filled with a substance, the important constituent of which is iodine. Iodine deficiency in the thyroid gland secretion induces thyroid enlargement, or goitre.

The Philippine Health Service is undertaking a study towards the prevention of goitre in this municipality of Papaya.

It is believed, however, that improving principally the drinking-water supply will prevent the disease, and treating already afflicted persons with iodine of some form will cure them.

LAST REPORT FROM DOCTOR INTENGAN

Doctor Intengan reports that U. S. A. T. *Merritt* arrived at Yokohama on September 15. Dr. Jose Orozco has been appointed to act as in interpreter of Colonel Munson and also to work at the dispensary under the American Embassy.

On September 17, the Filipino doctors and nurses visited the devastated area at Yokohama, and Dentist Mendoza was ordered to proceed immediately to Tokyo for special duty there.

TARLAC PROVINCIAL HOSPITAL OPENED

Doctor Tablan, District Health Officer of Tarlac, reported that the Provincial Hospital there has been completed. It was opened on October 16 for outside and emergency patients. It is now also provided with sufficient personnel.

The hospital has 30 beds, and cost ₱53,480 including the necessary equipments. This is the first hospital of its kind constructed and operated under the new Hospital Law.

DENTAL CLINIC IN LAGUNA

Doctor Rivera Sayo, District Health Officer of Laguna, reports that for the month of September, the Provincial Dentist treated 294 persons in the Dental Clinic at Santa Cruz, 175 of whom were males and 119 females. A total of 154 extractions and 23 fillings were made. The total number of treatments were 479.

MR. MAÑOSA BACK FROM ILOCOS SUR

Mr. Mañosa, Acting Chief, Division of Sanitary Engineering of the Philippine Health Service, returned from inspecting the proposed hospital site in Vigan, Ilocos Sur, on October 16.

REPORT ON THE DISTRIBUTION OF ASSORTED VACCINES AND SERA

Doctor Mencias, Acting Chief, Office of Property of the Philippine Health Service, reports that during the month of September the following quantities of vaccines and sera were distributed in Manila and the provinces: Anti-diphtheritic serum, 290,000 units; antitetanic serum, 45,000 units; gonococcus vaccine, 300 ampules; cholera vaccine, 23,715 c. c.; mixed typho-cholera vaccine, 53,160 c. c.; .typhoid vaccine, 33,280 c. c.; fresh vaccine virus 245,600 units; and dried vaccine virus, 27,900 units. All cost ₱19,777.

FIRST MINDANAO HEALTH OFFICERS' ASSEMBLY

The First Mindanao Health Officers' Assembly will be held at Zamboanga from December 17–22, 1923. This will undoubtedly be a source for exchange of impressions among the health officers in the locality, and will at the same time serve as health educational publicity among the inhabitants of Mindanao and Sulu.

The Assembly will be divided into the scientific and business sessions. In the former, the papers will be opened to free discussions after reading, individual turns to be no longer than five minutes each. In the latter, administrative matters of pertinent interest to the service and to health officers will be discussed and embodied in resolutions after due deliberation. The program will be prepared by the Secretary before the opening of the session. Sponsors of resolutions should have typewritten copies of same made beforehand and delivered to the Secretary for inclusion in the program. The following is the tentative program:

SCIENTIFIC SESSION

DECEMBER 17–20, 1923

December 17:

1. Opening address by Dr. Jacobo Fajardo, Chief, Division of Provincial Sanitation, P. H. S.
2. Address by the Provincial Governor of Zamboanga.
3. Surgical Practice, by Dr. Eusebio D. Aguilar.

December 18:

4. Modern Public Health Administration, by Dr. Sulpicio Chiyuto.
5. Medical Practice Amongst the Non-Christian Filipinos, by Dr. Jose M. Raymundo.
6. Nurses' Training, by Miss Tomasa Goduco.

December 19:

7. Prophylactic Vaccinations, by Dr. Julian Pilares.
8. Malaria Control, by Dr. Eugenio de Jesus.
9. Yaws Control, by Dr. Pablo Hamoy.

December 20:

10. Problems of Water Supply, by Dr. Pedro Rodriguez.
11. Water-born Diseases Control, by Dr. Constancio Camomot.
12. Intestinal Parasites with Special Reference to Hookworm Infestation and the Tetrachloride Treatment, by Dr. Cristobal Manalang.

13. **Problems of Disposal of Feces with Special Reference to Antipolo closets, by Dr. Francisco del Rosario.**
14. **Closing Address by the District Health Officer of Zamboanga.**

BUSINESS SESSION

DECEMBER 21–22, 1923

(*For officers of the Service only*)

Chairman: Dr. Jacobo Fajardo.
Secretary: Dr. Eusebio Aguilar.

ANTI-LEPROSY TREATMENT

Dr. Samuel Tietze, Physician in charge of the Leper Department, San Lazaro Hospital, Manila, reports that for the month ending October 15, 409 lepers were under anti-leprotic treatment; four cases received permanent discharges; four were given certificates of parole and three died. Three cases were brought from Culion Leper Colony.

As may be seen, leprosy is in a measure amenable to treatment. During the last few years, a considerable percentage of the lepers segregated at the Culion Leper Colony have been paroled; that is, they have been released as being "not a menace to public health," but have been required to report for examination at certain intervals.

The change of arresting the disease decreased with the length of time that it had been allowed to go without treatment unless this period was seven years or more. Apparently patients who survive without treatment for seven years possess powers of resistance that slightly increase their chances for marked improvement under treatment. These lepers are treated with chaulmoogra oil and its derivatives.

The parole system was begun in 1921 and has worked admirably. Those paroled appear to have told their friends that the conditions existing at the Culion Leper Colony and San Lazaro Hospital were good; and the mere fact that they had been released has shown that segregation might lead to cure and not to life-long confinement, as it almost invariably did previous to 1921. As a consequence many lepers instead of concealing the disease up to the last possible moment (and thereby spreading it thru the community) are now surrendering of their own accord and taking treatment. This earlier surrender and treatment hasten the degree of improvement that will secure parole and will, perhaps, complete release.

DOCTOR KIERULF BACK FROM INSPECTION IN THE SOUTH

Doctor Kierulf, District Inspector of the Philippine Health Service, has returned on October 22 from an inspection trip in the south. He attended the conference of the Presidents of the Sanitary Divisions in Surigao in connection with the Provincial Fair. The conference brought about a better coördination and coöperation in the health activities of the province, and it was concluded that the construction of more artesian wells will greatly improve public health work in the locality.

Doctor Kierulf also reports that the health condition in Leyte has been markedly improved altho sporadic cases of dysentery still occur in San Miguel, Hilongos, Ormoc, and Jaro, and typhoid fever in this latter municipality and Tanawan. A few cases of influenza and malaria also are registered in some municipalities.

Seven municipalities of Leyte have already appropriated sufficient funds for the construction of pump-wells. The campaign for the establishment of a safe disposal of human excreta is going on vigorously, and many new adequate toilets have already been constructed.

A campaign for systematic anti-cholera and anti-typhoid vaccination is being conducted in Jaro.

DOCTOR FAJARDO FOR INSPECTION TRIP

Doctor Fajardo, Chief of the Division of Provincial Sanitation, left on October 22 for inspection in the southern islands in company with the Governor-General.

HOOKWORM CAMPAIGN IN NUEVA ECIJA

Surgeon Bienvenido Caro of the Philippine Health Service, in charge of the hookworm campaign in Nueva Ecija, reports on October 22 that 705 persons were treated with carbon tetrachloride in San Jose and 700 in Cabanatuan, making a total of 1,405 persons. In the former, he found 37 tapeworms. Those who eat raw meat harbor them most frequently. One person expelled two tapeworms and another three, the longest of which measuring 10½ meters.

Doctor Caro is now conducting the hookworm campaign in Guimba, a municipality in the northern part of the province, having a population of 15,000, after which he will proceed to Cuyapo. He expects to finish the work in the province at the end of this month.

VENEREAL CLINICS IN MANILA

Venereal clinics are in actual operation at San Lazaro Hospital, Tondo Health Station and Philippine General Hospital under the auspices of the Philippine Health Service. The first two clinics are open daily, and the last holds clinics both afternoon and evening on alternate days.

The College of Medicine and Surgery of the University of the Philippines has also its venereal clinic which takes care of a limited number of patients. It is the intention of the Philippine Health Service to open clinics in other large cities such as Cebu, Iloilo, and Zamboanga as soon as there is appropriation available. It is believed that these are the only three cities where these clinics are at present needed.

A bill has been drafted by the Philippine Health Service for the Philippine Legislature especially directed to check any tendency of the disease to spread. Quarantine and compulsory treatment of the disease at its acute stage as well as reporting all venereal cases by physicians treating such cases are among the salient features of the bill.

ARRIVAL OF THE FILIPINO DOCTORS FROM JAPAN

The Filipino doctors under the charge of Doctor Intengan of the Philippine Health Service, who volunteered for Japan relief work, returned on October 26 at 9.30 a. m. on the U. S. A. T. *Somme*. The Filipino nurses also came with them.

Doctor Intengan was in charge of all Filipino medical and surgical personnel. With Miss Fortunata Ugtong, nurse, he was presented to His Imperial Highness, the Prince Regent of Japan, he representing the Philippine Health Service.

Doctor Intengan reported that the Filipino doctors and nurses were assigned at the hospital camp on September 21. On September 28, the entire hospital was turned over to the Japanese authorities.

YAWS CAMPAIGN IN JOLO, SULU

Doctor Panganiban, Acting District Health Officer of Jolo, Sulu, reports that a little less than 1,000 persons were given up to this date (October 22) intravenous injections of neosalvarsan. However, he found out that this number represents only about one-tenth of these needing this kind of treatment.

Doctor Panganiban likewise states that the former work of the health personnel of this district made the way easier to obtain the confidence of the Moros. It is only a question of continuing the work already accomplished in order to succeed.

He has requisitioned 200 more ampules of neosalvarsan for yaws campaign in his district.

PROVINCIAL LABORATORIES

The need of clinical laboratories in at least the capital of each province has been felt for a long time. The opening of laboratories in these places small though they may be at the start, will reduce the time of making the diagnosis in many urgent cases.

The Philippine Health Service has organized a new school the purpose of which is to prepare young men who will take charge of the provincial laboratories. This school offers courses in laboratory technic and bacteriology, and prepares the students, without academic degree, to work as laboratory assistants in provincial laboratories.

The field of laboratory activity will be enlarged and many of our young men will be induced to take this course as a profession. They will then furnish the much-needed help for the carrying on of scientific investigations.

In the City of Manila, the laboratory work is done by the biological laboratories of the Bureau of Science. The laboratory work for San Lazaro Hospital is done in the hospital laboratory.

In the provinces there is a growing interest in establishing laboratories as may be seen in the annual report of the Director of Health.

YAWS IN BUTUAN, AGUSAN

Doctor Raymundo, District Health Officer of Butuan, Agusan, reports on October 17 that during the month of September 182 yaws cases received intravenous injections of neosalvarsan distributed in various municipalities as follows: Santa Maria, 8; San Isidro, 20; Bunawan, 9; Basa, 10; Borbon, 32; Ebro, 16; San Francisco, 64; and Rosario, 17.

Yaws campaigns are at present conducted in the Provinces of Agusan, Bataan, Bulacan, Camarines Sur, Ilocos Norte, La Union, Pangasinan, Rizal, and Zambales.

EXAMINATION OF MASTER PLUMBER

The Board of Plumbing Examiners announces an examination for Master Plumber to be held at the Bureau of Civil Service on November 17, 1923, from 9 a. m. to 2 p. m.

Applicants are requested to secure and file an application at the Division of Sanitary Engineering, Philippine Health Service, not later than 1 p. m., November 3, 1923.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of October, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[a]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[a] Estimated on the basis of last figure published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

OCTOBER, 1923

Date	Pressure[1] (mean)	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	757.26	27.0	32.7	7	22.3	10	29.4	29.7
11-20	61.16	25.6	33.2	15	21.0	17	29.3	29.4
21-30	59.16	25.6	33.1	29	20.4	29	28.7	28.9

[1] Corrected for instrumental error and for temperature and reduced to sea level. Corrected to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	82.0	87.5	4	74.2	8
11-20	82.7	94.3	18	80.0	12
21-31	83.0	92.4	25	75.5	29

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW. quad	2,213.0	452.0	8	36.1	5.1	8
11-20	E. quad	1,008.0	171.0	11	25.4	3.5	15
21-31	NE. quad	1,169.0	160.0	29	33.4	4.9	28

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	60-05	9-35	2	16.6	3
11-20	48-00	8-25	14	8.7	7
21-30	64-35	10-05	22	5.7	3

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	8	11	19	71.43
Filipinos	701	606	1,307	55.47
Spaniards	....	1	1	6.03
Other Europeans	2	4	6	62.78
Chinese	31	21	52	34.31
All others	1	6	7	37.73
Total and average	743	649	1,392	53.97

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	123	107	230	8	11	19	249	78.52
No. 2, Meisic	119	97	216	10	4	14	230	26.03
No. 4, Sampaloc	105	122	227	9	8	17	244	58.29
No. 5, Tondo	267	205	472	18	22	40	512	74.87
No. 6, Paco	82	67	149	2	6	8	157	56.85
Total	696	598	1,294	47	51	98	1,392	53.97

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[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

Number of births attended by physicians, living, 403; stillbirths, 19.
Number of births attended by midwife, living, 118; stillbirths, 1.
Number of births attended by family, living, 871; stillbirths, 22.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual deathrate per 1,000
Americans	2	1	3	11.28
Filipinos	284	277	561	23.81
Spaniards	2	2	4	24.11
Other Europeans	4	1	5	52.82
Chinsee	15	5	20	13.20
All others	1	1	2	10.78
Total	308	287	595	23.07

TOTAL DEATHS BY SOCIAL CONDITION, INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male.	Female.
Married	104	85
Divorced	....	....
Widowed	42	60
Single	239	183
Condition not stated	4	1
Total	389	329
Grand total	718	

Stillbirths	42
Number of deaths with medical attendance	362
Number of deaths without medical attendance	356

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	40	30	....	....	70
30 days to under 1 year	67	54	14	15	150
1 year to under 2 years	23	27	3	2	55
2 years to 4 years	19	17	1	3	40
5 years to 9 years	5	6	1	....	12
10 years to 14 years	7	5	2	1	15
15 years to 19 years	11	10	7	3	31
20 years to 29 years	21	41	16	5	83
30 years to 39 years	18	24	9	4	55
40 years to 49 years	28	15	10	3	56
50 years to 59 years	25	12	6	3	46
60 years to 69 years	22	15	5	3	45
70 years to 79 years	13	10	2	....	25
80 years to 89 years	4	11	....	....	15
90 years to 99 years	4	9	1	....	14
100 years and over	....	1	1	....	2
Age not stated	1	....	....	....	1
Total	308	287	78	42	715

NOTE.—Two (2) male Filipinos, 35 and 60 years respectively and one (1) male Chinese, 38 years of age, permanent residences unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual deathrate per 1,000
No. 1, Intramuros	133	41.94
No. 2, Meisic	89	10.07
No. 4, Sampaloc	103	24.61
No. 5, Tondo	319	46.65
No. 6, Paco	74	26.79
Total	718	27.84

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			7	12			1						20
4. Malaria			1										1
4a. Malarial cachexia							1						1
8. Whooping cough				1									1
9. Diphtheria and croup				1									1
10. Influenza			2	1									3
14. Dysentery			4	2			1						7
17. Leprosy			1	1									2
19. Other epidemic diseases			3										3
23. Rabies			1										1
24. Tetanus			4	1									5
27. Beriberi				2						1			3
27a Beriberi, infantile			22	19									41
28. Tuberculosis of the lungs			50	62					5	2			119
30. Tuberculous meningitis			1	1						1			3
31. Abdominal tuberculosis			3	1									4
34. Tuberculosis of other organs				1					1				2
35. Disseminated tuberculosis				1									1
37. Syphilis			1	2									3
40. Cancer and other malignant tumors of the stomach, liver				1		1			1				3
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1										1
42. Cancer and other malignant tumors of the female genital organs				4									4
45. Cancer and other malignant tumors of other organs or of organs not specified			2										2
46. Other tumors (tumors of the female genital organs excepted)			2										2
47. Acute articular rheumatism			1										1
48. Chronic rheumatism and gout				1									1
55. Other general diseases			1										1
56. Alcoholism (acute or chronic)	1												1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			11	5				1			1		18
(2) Cerebro-spinal meningitis (undefined)		1	2										3
63. Other diseases of the spinal cord					1								1
64. Cerebral hæmorrhage, apoplexy			2	5			1		1				9
65. Softening of the brain						1							1
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			5	1					1				7
72. Chorea				1									1
III. Diseases of the circulatory system													
78. Acute endocarditis				5									5
79. Organic diseases of the heart				2					2				4
80. Angina pectoris				2									2
81. Diseases of the arteries, atheroma, aneurysm, etc.				1									1
82. Embolism and thrombosis				1									1
IV. Diseases of the respiratory system													
89. Acute bronchitis			20	19									39
90. Chronic bronchitis			4	6					2				12
91. Broncho-pneumonia	1		29	30					1				61
92. Pneumonia			4	5									9
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa				1									1
103. Other diseases of the stomach (cancer excepted)			1	1								1	3
104. Diarrhœa and enteritis (under 2 years)			12	5									17
105. Diarrhœa and enteritis (2 years and over)			3	2	1								6
108. Appendicitis and typhlitis			1										1
109. Hernias, intestinal obstructions			2	1									3
110. Other diseases of the intestines			2										2
113. Cirrhosis of the liver			2										2
115. Other diseases of the liver			1	2									3
117. Simple peritonitis (nonpuerperal)				1									1

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			2	4						1			7
120. Bright's diseases			11	9					1				21
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
136. Other accidents of labor				1									1
137. Puerperal septicæmia				1									1
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle				1									1
144. Acute abscess				1									1
145. Other diseases of the skin and annexa			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart			1	1									2
(3) Other congenital malformations				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			6	8									14
(2) Congenital debility			33	15									48
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			2	1									3
XII. Old age													
154. Senility			13	17									30
XIII. Affections caused by external causes													
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1										1
176. Injuries by animals			1										1
183. Homicide by cutting or piercing instruments			1	1									2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			3	2									5
Total	2	1	284	277	2	2	4	1	15	5	1	1	595
Grand total	3		561		4		5		20		2		595

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			6	2									8
10. Influenza			2										2
17. Leprosy			1										1
24. Tetanus			1	2									3
27a Beriberi, infantile			6	5									11
28. Tuberculosis of the lungs			13	3					2				18
30. Tuberculous meningitis			1						1				2
31. Abdominal tuberculosis			1	1									2
35. Disseminated tuberculosis			1										1
40. Cancer and other malignant tumors of the stomach, liver			1	1									2
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1										1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
47. Acute articular rheumatism			1										1
50. Diabetes			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			2	3									5
64. Cerebral hæmorrhage, apoplexy				1									1
66. Paralysis without specified cause			1										1
68. Other forms of mental alienation			2	2									4
III. Diseases of the circulatory system													
78. Acute endocarditis									1				1
79. Organic diseases of the heart			3	1									4
81. Diseases of the arteries, atheroma, aneurysm, etc				1									1
82. Embolism and thrombosis				2									2
IV. Diseases of the respiratory system													
89. Acute bronchitis			1	2									3
90. Chronic bronchitis			2										2
91. Broncho-pneumonia	1		3	4									8
92. Pneumonia			1										1
94. Pulmonary congestion, pulmonary apoplexy			1										1

V. Diseases of the digestive system												
102. Ulcer of the stomach			1									1
104. Diarrhœa and enteritis (under 2 years)			1	3								4
105. Diarrhœa and enteritis (2 years and over)			1									1
108. Appendicitis and typhlitis			4									4
109. Hernias, intestinal obstructions			1	1								2
115. Other diseases of the liver			1						1			2
117. Simple peritonitis (nonpuerperal)					1							1
VI. Nonvenereal diseases of the genito-urinary system and annexa												
119. Acute nephritis									1			1
120. Bright's diseases			2	1								3
130. Other diseases of the uteros				1								1
131. Cysts and other tumors of the ovary				1								1
VII. The puerperal state												
136. Other accidents of labor				1								1
138. Puerperal albuminuria and convulsions				1								1
VIII. Diseases of the skin and of the cellular tissue												
144. Acute abscess			1						1			2
XI. Diseases of early infancy												
151. Congenital debility, icterus and sclerema: (2) Congenital debility				2								2
XII. Old age												
154. Senility			1									1
XIII. Affections caused by external causes												
160. Suicide by cutting or piercing instruments									1			1
170. Traumatism by firearms			1									1
171. Traumatism by cutting or piercing instruments			1									1
172. Traumatism by fall			1									1
Total	1		68	42	1				8			120
Grand total	1		110		1				8			120

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Influenza					2	2
14. Dysentery					1	1
24. Tetanus				1		1
27a. Beriberi, infantile				3	49	52
30. Tuberculous meningitis					1	1
35. Disseminated tuberculosis					1	1
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					12	12
(2) Cerebrospinal meningitis					1	1
89. Acute bronchitis					30	30
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					24	24
92. Pneumonia					4	4
104. Diarrhœa and enteritis					13	13
115. Other diseases of the liver	1					1
119. Acute nephrtis					1	1
144. Acute abscess					1	1
145. Other diseases of the skin and annexa					1	1
150. Congenital malformations (stillbirths births not included):						
(2) Congenital malformations of the heart	2					2
(3) Other congenial malformations		1				1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not still-born)	9	1		4		14
(2) Congital debility	13	4		22	11	50
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1			1	1	3
Total	26	6		31	157	220

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	22,182
Number of rats caught by spring traps	4,064
Number of cage wire traps set	740
Number of rats caught by cage wire traps	1
Number and kind of baits (coconuts)	22,922
Number of poisons portion placed	33,425
Number of rats found poisoned	322
Number of rats killed by clubs and other weapons	2,628
Number of rats found dead from other causes	1,200
Total number of rats otherwise caught, found dead or killed	8,215
Total number of rats sent to the laboratory for examination	8,215
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF OCTOBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	5	0	14	0	2	0	11	2	2	2	38
Female	3	1	4	1	4	0	6	1	0	0	20
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	1	1	1	1	1	5
Total:											
Male	5	0	14	0	2	0	11	2	2	2	38
Female	3	1	4	1	4	1	7	2	1	1	25
Grand total	8	1	18	1	6	1	18	4	3	3	63

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	3	0	3	0	0	0	2	0	0	0	8
Female	1	1	1	0	1	1	3	2	2	0	12
Total	4	1	4	0	1	1	5	2	2	0	20

Total cases reported within the month in the City of Manila		95
Resident cases	73	
Non-resident cases	21	
Foreign cases	1	
Total deaths reported within the month in the City of Manila		28
Deaths among resident cases	20	
Deaths among non-resident cases	8	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		84
Autopsy	0	
Blood culture	0	
Clinically positive	68	
Feces	0	
Widal reaction	16	
Confirmed cases as paratyphoid		0
Cases not confirmed		11

Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF OCTOBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	5	0	0	1	2	1	1	0	10
Female	1	0	1	0	2	0	2	1	0	0	7
Dead:											
Male	0	0	0	1	0	2	0	0	0	1	4
Female	0	0	0	1	0	0	1	0	0	0	2
Total:											
Male	0	0	5	1	0	3	2	1	1	1	14
Female	1	0	1	1	2	0	3	1	0	0	9
Grand total	1	0	6	2	2	3	5	2	1	1	23

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	1	0	2	0	0	0	2	5
Female	0	0	0	1	0	0	0	1	0	0	2
Total	0	0	0	2	0	2	0	1	0	2	7

Total cases reported within the month in the City of Manila		29
Resident cases	26	
Non-resident cases	3	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		7
Deaths among resident cases	7	
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Reported as:		
Acute Dysentery	0	
Amœbic dysentery	3	
Bacillary dysentery	0	
Chronic dysentery	1	
Dysentery	20	
Erroneously reported as dysentery	5	
Total		29

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF OCTOBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		2
Non-resident cases	0	
Foreign cases	0	
Resident cases	2	
Resident cases not confirmed as cholera (Found negative)	2	
Resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases (confirmed as cholera)	0	
Deaths among resident cases (not confirmed as cholera)	0	

Cholera carrier—None.

DIPHTHERIA REPORTED DURING THE MONTH OF OCTOBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	1	0	0	0	0	0	0	0	1
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	1	0	0	0	0	0	0	0	1
Grand total	0	0	1	0	0	0	0	0	0	0	1

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	1	0	0	0	0	0	0	0	1

Total cases reported within the month in the City of Manila		6
Resident cases	6	
Non-resident cases	0	
Resident cases confirmed as diphtheria	1	
Resident cases not confirmed as diphtheria	5	
Total deaths reported within the month in the City of Manila		1
Deaths among resident cases (confirmed)	1	
Deaths among resident cases (not confirmed)	0	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	2	2	2	0
Varioloid	0	0	0	0
Varicella	5	5	0	0
Smallpox	0	0	0	0
Measles	5	11	0	0
Whooping cough	0	2	0	1
Influenza	18	8	2	1
Bubonic plague	0	0	0	0
Beriberi	4	8	0	8
Beriberi, infantile	22	19	22	19
Pulmonary tuberculosis	122	100	55	64
Tuberculosis of all forms	5	5	5	5
Encephalitis lethargica	3	0	3	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	1	0	0	0
Varioloid	0	0	0	0
Varicella	0	0	0	0
Smallpox	0	0	0	0
Measles	0	0	0	0
Whooping cough	0	0	0	0
Influenza	2	0	2	0
Bubonic plague	0	0	0	0
Beriberi	0	0	0	0
Beriberi, infantile	6	5	6	5
Pulmonary tuberculosis	38	10	[a]16	8
Tuberculosis of all forms	4	1	4	1
Encephalitis lethargica	0	0	0	0

[a] One permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF OCTOBER, 1923

Sera and vaccines	On hand March 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	981,000	....	981,000	100,000	81,000
Anti-dysenteric serum (ampoules)	71	100	171	125	46
Anti-tetanic serum (units)	500,000	109,000	609,000	309,000	300,000
Cholera vaccine (c. c.)	3,890	12,000	15,890	8,580	7,310
Dried vaccine virus (units)	11,650	36,000	47,650	34,850	12,800
Fresh vaccine virus (units)	108,600	275,000	383,600	248,800	134,800
Gonococcus vaccine (ampoules)	....	220	220	220	....
Mixed cholera-typoid vaccine (c. c.)	120	83,575	83,695	78,855	4,840
Normal horse serum (ampoules)	....	....	....	....	....
Typhoid vaccine (c. c.)	4,830	30,000	34,830	24,120	10,710

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	810	184	15	13	7	69	28	266	50
No. 2, Meisic	1,492	181	14	71	101	17	6	269	121
No. 4, Sampaloc	1,069	212	13	52	88	......	......	264	101
No. 5, Tondo	850	340	17	208	81	......	......	548	98
No. 6, Paco	504	162	24	68	56	18	2	248	82
Total	4,725	1,079	83	412	333	104	36	1,595	452

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1923

Health districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	......	......	......	......	562	186
No. 2, Meisic	......	......	......	......	3,544	155
No. 4, Sampaloc	10	1	68	54	429	893
No. 5, Tondo	693	37	469	38	391	358
No. 6, Paco	......	......	......	......	43	19
Division of Communicable Diseases	......	......	......	......	1,579	376
Total	703	38	537	92	6,548	1,987

Health districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	313	384	......	......	1,445
No. 2, Meisic	......	......	......	......	1,005	108	......	......	4,812
No. 4, Sampaloc	2	3	17	147	302	967	16	286	2,591
No. 5, Tondo	647	36	337	27	247	13	1,413	871	1,009
No. 6, Paco	......	......	......	......	45	10	......	......	117
Division of Communicable Diseases	......	......	......	......	949	589	......	......	3,493
Total	649	39	354	174	2,861	2,071	1,429	1,157	13,467

NOTE.—A means persons of 15 ond over 15 years of age; C, below 15 years of age.

For first and second injections see table of MIXED (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1923

Health districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	700	216	657	193	....	....
No. 2, Meisic	2,582	265	3,083	228	....	....
No. 4, Sampaloc	610	937	396	627	....	....
No. 5, Tondo	70	....	....	....	....	....
No. 6, Paco	136	563	87	141	....	....
Division of Communicable Diseases	1,682	559	1,563	446	....	....
Total	5,780	2,540	5,786	1,635	....	....

Health districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	187	315	264	324	....	....	1,418	1,438	....
No. 2, Meisic	875	121	775	154	....	....	3,843	4,240	....
No. 4, Sampaloc	211	715	192	726	....	....	2,473	1,941	....
No. 5, Tondo	30	....	....	....	....	....	100	....	....
No. 6, Paco	185	427	113	269	....	....	1,311	610	....
Division of Communicable Diseases	876	696	789	509	....	....	3,813	3,307	....
Total	2,364	2,274	2,133	1,982	.....	.....	12,958	11,536	....

NOTE.—A means persons of 15 ond over 15 years of age; C, below 15 years of age.

Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCE FOR THE YEAR 1923[1]

Provinces	Total vaccinations[2]	Inspection of persons vaccinated			
		Under 1 year[3]		1 year to 4[3]	
		Positive	Negative	Positive	Negative
Abra	6,040	230	69	567	306
Agusan	3,841	53	15	102	49
Albay	88,304	3,129	1,094	6,256	2,226
Antique	9,166	1,352	422	1,767	834
Bataan	25,564	373	137	1,538	611
Batanes	1,696	46	21	115	48
Batangas	171,256	2,415	272	5,310	1,517
Bohol	80,753	1,217	455	2,913	1,005
Bukidnon	5,000	4	1	18	13
Bulacan	30,912	3,199	504	4,416	1,400
Cagayan	18,656	1,180	143	2,326	519
Camarines Norte	2,171	395	174	285	156
Camarines Sur	13,556	1,136	669	1,980	876
Capiz	14,508	488	154	728	200
Catanduanes	7,452	730	319	402	399
Cavite	20,917	1,426	190	1,975	583
Cebu	74,996	6,339	2,867	5,142	3,061
Cotabato	13,300	110	103	435	536
Culion Leper Colony	321	....	....	....	....
Davao	10,739	....	....	....	....
Ilocos Norte	19,548	1,791	612	3,090	2,136
Ilocos Sur	33,818	2,483	490	4,946	1,976
Iloilo	40,994	1,577	321	2,342	800
Isabela	6,397	197	150	771	619
Laguna	29,888	1,406	371	2,742	744
Lanao	10,316	88	38	337	212
La Union	13,840	660	254	701	671
Leyte	69,884	471	176	1,775	392
Marinduque	8,304	229	125	753	523
Masbate	6,427	47	24	322	161
Mindoro	10,885	469	256	1,194	670
Misamis	14,401	767	679	1,642	1,221
Mountain Province	14,737	127	80	171	140
Nueva Ecija	16,481	2,352	670	772	641
Nueva Vizcaya	5,632	259	39	436	78
Occidental Negros	32,637	2,508	797	3,188	1,933
Oriental Negros	82,547	2,378	1,847	6,760	5,439
Palawan	3,515	....	....	....	....
Pampanga	31,175	2,235	418	2,563	818
Pangasinan	71,639	7,398	1,768	7,627	2,532
Rizal	20,740	1,889	374	2,589	815
Romblon	4,369	....	....	....	....
Samar	25,483	470	163	960	476
Sorsogon	6,946	859	308	896	390
Sulu	9,279	357	87	1,221	470
Surigao	8,552	178	106	1,265	709
Tarlac	101,002	2,043	352	6,218	1,577
Tayabas	20,227	1,753	663	2,071	851
Zambales	5,323	451	144	625	291
Zamboanga	19,322	596	343	864	723
Total	1,292,956	59,810	18,904	95,106	42,347

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[1] Compilation of reports received up to October.
[2] Taken from P. H. S. Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCE FOR THE YEAR 1923—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [3]		Total	
	Positive	Negative	Positive	Negative
Abra	1,192	1,287	2,767	2,749
Agusan	700	481	855	545
Albay	17,490	7,985	37,883	19,267
Antique	1,378	1,497	4,497	2,758
Bataan	966	534	11,067	6,652
Batanes	509	271	874	532
Batangas	9,563	15,193	42,210	42,110
Bohol	6,440	3,348	17,621	8,476
Bukidnon	576	687	1,360	1,750
Bulacan	8,400	5,082	16,015	6,986
Cagayan	1,220	427	11,376	3,748
Camarines Norte	309	384	1,274	822
Camarines Sur	3,016	1,970	6,834	4,197
Capiz	2,159	1,218	8,499	3,839
Catanduanes	361	678	2,374	2,898
Cavite	2,142	1,445	12,414	7,011
Cebu	4,230	3,560	31,220	19,421
Cotabato	1,867	2,650	2,392	3,289
Culion Leper Colony	...	...	80	47
Davao	37	28	4,810	5,047
Ilocos Norte	3,828	6,392	8,711	9,149
Ilocos Sur	6,748	4,501	17,619	9,870
Iloilo	2,752	941	17,835	6,184
Isabela	865	1,006	2,160	2,585
Laguna	2,830	2,126	13,190	11,848
Lanao	685	574	4,204	1,847
La Union	946	2,818	4,038	6,151
Leyte	6,443	1,780	34,289	9,380
Marinduque	2,424	1,885	3,910	2,981
Masbate	773	1,097	1,438	1,626
Mindoro	1,475	1,056	4,370	3,078
Misamis	1,832	1,210	4,948	3,587
Mountain Province	347	340	5,764	3,402
Nueva Ecija	504	626	7,381	6,490
Nueva Vizcaya	569	199	4,259	1,125
Occidental Negros	3,355	2,228	17,221	9,588
Oriental Negros	14,058	15,172	32,644	29,141
Palawan	...	...	2,901	1,103
Pampanga	1,728	1,253	13,729	4,508
Pangasinan	10,919	5,594	43,271	17,475
Rizal	2,656	2,580	8,101	4,718
Romblon	...	...	1,473	705
Samar	1,328	1,181	8,194	5,428
Sorsogon	1,043	488	3,129	1,686
Sulu	1,333	896	4,106	2,272
Surigao	1,302	795	3,733	2,864
Tarlac	10,972	9,725	43,188	31,392
Tayabas	3,598	1,834	11,994	4,998
Zambales	1,086	1,250	2,742	2,486
Zamboanga	1,950	4,160	4,536	6,896
Total	150,404	122,377	551,490	344,937

[3] Taken from Provincial Form No. 70.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injection	
	A.	C.	A.	C.	A.	C.
Albay	4,769	2,775	119	20	....	....
Batangas	1,918	1,008	25	....	....	....
Bulacan	158	268	12	2	....	....
Capiz	604	401	207	153	....	....
Cebu	369	366	236	89	....	....
Davao	170	124	83	113	....	....
Isabela	45	43	9	15	....	....
Laguna	59	116	3	....	....	....
Misamis	34	81	....	....	....	....
Oriental Negros	65	63	44	72	....	....
Pampanga	138	112	62	40	....	....
Pangasinan	160	87	60	17	....	....
Rizal	56	7	22	3	....	....
Sorsogon	744	318	340	411	....	....
Tayabas	408	318	21	2	....	....
Zambales	171	73	149	64	....	....
Total	9,139	6,160	1,392	731	....	....

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	4,334	2,292	178	88	....	....	14,170	405	....
Batangas	1,789	982	....	....	....	....	4,968	25	....
Bulacan	114	167	19	3	....	....	707	36	....
Capiz	468	287	68	44	....	....	1,760	472	....
Cebu	235	231	158	107	....	....	1,201	590	....
Davao	55	70	34	63	....	....	419	293	....
Isabela	19	29	8	11	....	....	136	43	....
Laguna	36	69	....	....	....	....	280	3	....
Misamis	30	29	....	....	....	....	174	....	....
Oriental Negros	68	45	47	64	....	....	241	227	....
Pampanga	57	95	26	38	....	....	402	166	....
Pangasinan	103	80	54	12	....	....	430	143	....
Rizal	43	8	4	1	....	....	114	30	....
Sorsogon	561	208	290	78	....	....	1,831	849	....
Tayabas	319	282	8	13	....	....	1,327	44	....
Zambales	134	69	115	62	....	....	447	390	....
Total	3,365	4943	1,009	584	....	....	28,607	3,716	....

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[1] Compilation of reports received up to October.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED (TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	75	135	37	28	70	111
Albay	355	23	237	8	13	3
Antique	139	110	87	118	17	6
Batangas	96	18	55	9	6	2
Bulacan	668	355	439	177	267	99
Camarines Sur	222	68	35	21	8	3
Capiz	30	8	11	2	5	2
Catanduanes	178	44	123	31	...	...
Cavite	231	73	65	44	50	47
Cebu	72	52	38	...	...	...
Ilocos Sur	1,469	329	877	175	690	364
Isabela	28	40	3	26	...	...
Laguna	969	123	404	91	177	67
Nueva Ecija	8	...	...	...	...	...
Occidental Negros	23	4	19	2	...	...
Oriental Negros	57	13	49	...	11	...
Pampanga	2,089	1,427	1,592	855	595	422
Pangasinan	1,536	1,194	1,116	828	894	691
Rizal	516	144	346	65	141	41
Tayabas	108	31	43	...	...	...
Zambales	1,182	1,132	1,106	889	961	812
Total	10,051	5,323	6,682	3,369	3,905	2,670

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	59	87	34	54	48	112	356	153	341
Albay	218	26	178	22	19	8	622	445	48
Antique	61	46	74	37	13	5	356	316	41
Batangas	94	34	36	7	3	2	242	107	13
Bulacan	584	326	374	178	286	128	1,933	1,168	780
Camarines Sur	152	91	43	14	7	4	533	113	22
Capiz	3	7	2	4	1	...	48	19	8
Catanduanes	67	47	47	19	...	...	336	220	...
Cavite	255	75	54	48	34	46	634	211	177
Cebu	57	35	32	...	...	...	216	70	...
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Isabela	21	32	12	16	...	...	121	57	...
Laguna	752	146	418	93	175	52	1,990	1,006	471
Nueva Ecija	3	...	5	...	...	...	11	5	...
Occidental Negros	7	3	6	2	...	...	37	29	...
Oriental Negros	32	13	22	7	15	7	115	78	33
Pampanga	2,087	1,367	1,465	887	523	476	6,970	4,799	2,016
Pangasinan	1,180	1,097	915	769	784	640	5,007	3,628	3,009
Rizal	419	160	267	76	129	31	1,239	754	342
Tayabas	78	28	25	1	...	...	245	69	...
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	8,250	5,008	5,921	3,236	3,531	2,516	28,682	1,208	12,622

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[1] Compilation of reports received up to October.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First njections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	244	155	171	287	....	....
Antique	658	548	421	317	32	25
Bataan	471	134	231	56	....	....
Batanes	68	8	11	2	....	....
Batangas	641	286	334	107	....	....
Bohol	195	25	215	6	....	....
Bulacan	96	5	53	5	14	2
Cagayan	575	548	221	32	....	....
Camarines Norte	417	50	159	20	....	....
Camarines Sur	1,254	311	436	101	....	....
Capiz	61	1	4	....	....	....
Cavite	615	340	308	44	....	....
Cebu	489	204	103	58	....	....
Cotabato	189	104	....	....	....	....
Davao	344	18	248	12	....	....
Ilocos Norte	1,397	813	709	205	....	....
Ilocos Sur	1,745	352	449	146	131	73
Iloilo	1,457	1,101	1,634	730	....	....
Isabela	121	28	3	....	....	....
Laguna	126	53	60	54	....	....
Lanao	40	15	5	8	....	....
La Union	987	809	504	168	....	....
Leyte	211	15	96	22	....	....
Marinduque	588	322	374	297	....	....
Masbate	357	188	282	91	....	....
Mindoro	246	101	89	21	22	....
Misamis	526	411	271	213	....	11
Nueva Ecija	576	292	520	226	115	23
Nueva Vizcaya	215	170	349	148	15	35
Occidental Negros	29	20	21	18	....	....
Oriental Negros	475	192	50	51	....	....
Pampanga	861	568	353	191	....	....
Pangasinan	416	213	320	180	....	....
Rizal	1,677	914	1,033	706	....	....
Sulu	113	254	18	85	....	....
Surigao	32	1	99	1	....	....
Tarlac	1,104	648	364	289	....	....
Tayabas	1,468	447	431	66	....	....
Zamboanga	44	8	....	....	....	....
Total	21,128	10,672	10,949	4,963	329	198

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[1] Compilation of reports received up to October.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPOTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	121	109	111	256	......	......	629	825	......
Antique	507	514	258	281	10	34	2,227	1,277	101
Bataan	311	102	158	37	......	......	1,018	482	......
Batanes	55	5	16	3	......	......	136	32	......
Batangas	641	302	350	152	......	......	1,870	943	......
Bohol	82	41	97	9	......	......	848	327	......
Bulacan	23	3	14	3	7	......	127	75	23
Cagayan	276	390	191	117	......	......	1,789	561	......
Camarines Norte	244	31	162	32	......	......	742	373	......
Camarines Sur	806	235	280	105	......	......	2,606	922	......
Capiz	18	4	......	......	......	......	84	4	......
Cavite	299	114	229	41	......	......	1,368	622	......
Cebu	225	138	80	65	......	......	1,056	306	......
Cotabato	133	80	......	......	......	......	506	......	......
Davao	22	13	9	7	......	......	897	276	......
Ilocos Norte	1,193	867	345	209	......	......	4,270	1,468	......
Ilocos Sur	1,109	300	481	168	260	91	3,506	1,244	555
Iloilo	1,083	981	1,024	639	......	......	4,622	4,027	......
Isabela	8	22	......	......	......	......	179	3	......
Laguna	56	13	44	58	......	......	248	216	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	948	608	409	190	......	......	3,352	1,271	......
Leyte	124	17	46	13	......	......	367	177	......
Marinduque	424	302	351	449	......	......	1,636	1,471	......
Masbate	148	175	105	94	......	......	868	572	......
Mindoro	175	103	68	46	2	......	625	224	24
Misamis	350	305	131	109	1	3	1,592	724	15
Nueva Ecija	362	186	347	189	70	8	1,416	1,282	216
Nueva Vizcaya	146	157	154	144	3	33	688	795	86
Occidental Negros	26	22	23	22	......	......	97	84	......
Oriental Negros	382	188	86	78	......	......	1,237	265	......
Pampanga	973	578	505	236	......	......	2,980	1,285	......
Pangasinan	414	261	338	216	......	......	1,304	1,054	......
Rizal	1,457	691	976	548	......	......	4,739	3,263	......
Sulu	87	170	29	75	......	......	624	207	......
Surigao	28	......	53	......	......	......	61	158	......
Tarlac	795	645	294	265	......	......	3,192	1,212	......
Tayabas	1,025	375	294	48	......	......	3,315	839	......
Zamboanga	18	7	......	......	......	......	77	......	......
Total	15,097	9,055	8,061	4,904	353	169	55,952	28,877	1,020

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age.

[1] Compilation of reports received up to October.
Other reports not yet received.

SMALLPOX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF OCTOBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF OCTOBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH.

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA DURING THE MONTH OF OCTOBER, 1923

	Health district					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending September 30, 1922:						
Minor	32	15	20	28	47	142
Sewer	9	57	16	7	5	94
Vacating	....	11	6	2	2	21
Filling	5	3	13	6	3	30
Total	46	86	55	43	57	287
Orders issued during the month:						
Minor	7	8	6	1	10	32
Sewer	....	....	....	....	....	....
Vacating			....			
Filling	....	....	1	....	....	1
Total	7	8	7	1	10	33
Grant total	53	94	62	44	67	320
Orders completed during the month:						
Minor	7	9	5	2	10	33
Sewer	....	2	1	....	....	3
Vacating	....	....	1	....	....	1
Filling	....	1	....	....	....	1
Total	7	10	7	2	10	38
Orders cancelled during the month:						
Minor	....	....	....	....	....	....
Sewer	....	....	....	....	....	....
Vacating	....	1	....	....	....	1
Filling	....	....	....	....	....	....
Total	....	1	....	....	....	1
Orders pending during the month:						
Minor	32	14	21	27	47	141
Sewer	9	55	15	7	5	91
Vacating	....	10	5	2	2	19
Filling	5	2	14	6	3	30
Total	46	81	55	42	57	281
Strong material plans approved:						
New buildings including additions and alterations	7	10	27	24	8	76
Permits for minor building constructions:						
Approved	24	12	25	22	6	89
Disapproved	2	1	1	5	1	10
New buildings completed	10	9	5	14	9	47
Light and mixed material construction:						
Permits approved	....	....	22	15	16	50
Permits disapproved	....	....	....	14	6	23
Total number of building projects passed upon	43	32	80	94	46	295
Prosecutions:						
Convictions	....	1	....	....	....	1
Dismissals	....	....	....	....	....	....
Amount of fines	....	₱10	....	....	....	₱10
Plumbing permits issued	35	34	13	40	18	140
Plumbing projects completed	18	18	11	18	7	72
Premises connected to the sanitary sewer to September, 1923	1,686	2,859	1,077	573	419	6,614
Premises connected during October, 1923	1	6	1	1	3	12
Total	1,687	2,868	1,078	574	422	6,626

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III NOVEMBER, 1923 No. 11

I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.

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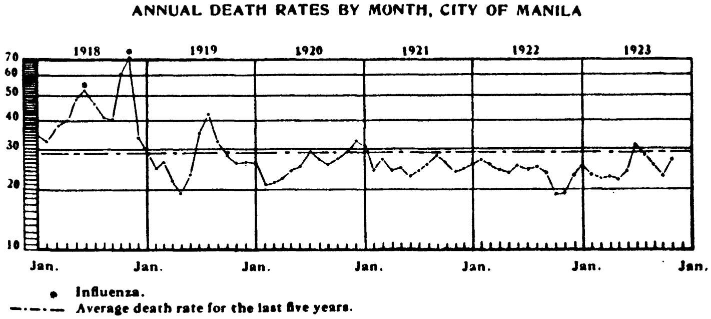

MANILA
BUREAU OF PRINTING
1924

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III NOVEMBER, 1923 No. 11

BERIBERI FROM A HISTORICO-BIBLIOGRAPHICAL POINT OF VIEW

By MANUEL ARTIGAS CUERVA
(Member of the Royal Academy of History)

PRELIMINARY CONSIDERATIONS

We shall not deal with this disease in terms of medical analysis and investigation, inasmuch as men prominent in the advancement of the science and the art of Hippocrates have technically handled the topic in a thoroughgoing manner. It is our aim to glean such details of investigation as will furnish the necessary information, not only for the identification of similar terms, but also for the understanding of the pathogeny, the genesis, the etiology, and kindred aspects of the disease,—a purpose which will serve as a mode of significant coöperation with devoted medical men, many of whom were my fellow-workers in the last quarter of the nineteenth century.

My attempt at coöperation cannot be any greater, inasmuch as the work will be undertaken with my former comrades in the halls and laboratories of the San Juan de Dios Hospital and of the College of St. Joseph. I also understand the difficult position in which they may find themselves in the face of such a painstaking search in the vast field of history, especially when it is very evident that their chosen profession places them aloof from such excursions into historical bypaths and renders them incapable of being favorably disposed to general bibliographical undertakings.

PRE-SPANISH DAYS

Was the disease known or recognized as such in pre-Spanish epochs? An affirmative reply is called for beyond the peradventure of a doubt, and in support of this theory we can adduce the fact that the inhabitants of the Philippines subsisted on the same food and in the same manner before as well as after the coming of the Spaniards. One of the vernacular languages has even given its own name to the disease, which is *Pinamamag.* This name is practically unknown because of the little interest taken in such matters in those remote years.

HOW THE DISEASE WAS GIVEN ITS NAME

The first piece of information about the disease was had about 2,600 B. C., when the malady was already known to the Chinese.

The hint is given by Corré who said in 1887 in his *Clinical Treatise on Diseases of Tropical Climates:* "No mention has yet been made of beriberi in the Philippines, where there is no doubt that the people have confused or are still confusing it with other diseases, for it would be very strange for the Islands to be immune while neighboring archipelagos show the same mesologic characteristics."

Undoubtedly, the knowledge possessed by the followers of Confucius was not spread broadcast with any degree of rapidity, seeing that no mention was made of the disease until the second century A. D., when a Japanese described beriberi as *kak-ke.*

This name might have been suggested by the Chinese writer Hwangti who gave in his work *Neiching* the name *kiok-ki* to the disease.

The question, therefore, that comes to our minds is: Given the close commercial intercourse between China and the Philippines, as shown by the unceasing exchange of products, was it possible for our country not to have known anything about the disease, at least through contamination which might have resulted in the outbreak of a beriberi epidemic? It is incredible that we had no knowledge of beriberi, inasmuch as the hotbed of its infection and propagation was centered in regions immediately surrounding the Philippines.

FIRST MENTION IN THE SPANISH ERA

In the year 1543, while Governor Villalobos was in Mindanao, "the people began to get sick and to die irremediably . . . after gradual swelling, especially annoying the abdominal region...

For the illness which they called *berber,* no remedy could be found." (From *Historia General de las Islas Occidentales a la Asia Adyacentes, Llamadas Philipinas. Madrid, 1882.* By Aganduru Moris.)

Referring to the same Villalobos, when his fleet reached Amboino in the third Spanish expeditions sent thither, a priest accompanying the expedition wrote about beriberi thus: ". . . there is prevalent in them (in Amboino and the neighboring islands) a disease peculiar to the region, which makes foot and hand movements impossible as to prevent walking, which is apparently the only remedy. The illness seized Villalobos and he died along with four soldiers." (From Juan de la Concepción en *Historia General de Philipinas.* Sampaloc, 1788.)

In 1582 or thereabouts, the Governor of the Philippines then, Gonzalo Ronquillo, prepared an expedition of 300 Spaniards and 1,500 Filipinos, nearly all coming from Pangasinan and Cagayan, to conquer the Moluccas. They had for General Pedro Sarmiento, and with them went also the nephew of the Governor. After effecting the surrender of the Island of Montil and of capturing the fortress of Tidore, the diseases (beriberi) that broke out in our camp (in the army)—recounts a writer—were such that no medicine could be found and the only remedy left was to decamp as hastily as possible. (From Bartolome Leonardo de Argensola in *Conquista de las Islas Malucas.* Zaragosa, 1891, pp. 167–169.)

This news is corroborated by the Augustinian friar, Joaquin Martinez Zuñiga, when in making mention of the campaign said: ". . . and they were about to capture the city when an epidemic of *berber* broke out among them, and so many of them died of this species of dropsy." (From Joaquin Martinez de Zuñiga in *Historia de las Islas Philipinas.* Sampaloc, 1803, pp. 145–146.)

Such items came to constitute what may be considered the preliminary mention or knowledge of beriberi in the Philippines.

THE FIRST PUBLIC TREATISE

Thereafter, well-nigh a century lapses before another study of the disease is written, until 1645 when an eminent doctor, Jac Bontius, produces a succinct exposition of beriberi, with the result of contributing a beginning for the further study of this malady, at least from its atrophic aspects. (*De Medicina Indorum,* Lugduni Batar, 1642, 115, chapter "De Paralycos quidan especie quam indigenae beriberi vocant.")

Referring to the etiology of disease, he says: "*Affectus quidam admodum molestus, hic homines infestat qui ab incolis Beriberi (quod ovem sonat) vocatur. Credo quia nos malum istud invatit nictando genibus, ac elevando crura, tanquam oves ingrediantur.*"

It was not Bontius, however, who was the first in mentioning this disease. Before his time, Leonardo de Argensola, speaking of the arrival of the Europeans in the Moluccas, affirms: "Others declare that they (the Islands) are all pleasant to look at, but are not healthful, much less to strangers, all of whom are prone to the disease *berber,* which is common in that land. It (the disease) swells up the body, disables the limbs: but with the Philippine clove drank with ginger, or with the employment of a certain herb or grass known to the natives, a cure is effected; and the Dutch, thanks to fear and to experience, have found the use of lemon juice also efficacious." (*Conquest of the Moluccas Islands,* Madrid, 1609, p. 9.)

OTHER WRITERS

The distinct service lent by Bontius in igniting the fire of enthusiasm lay in arousing the lovers of medical science themselves to the need of studying the malady, and in 1651 there appeared an illuminating treatise thereon by Tulpius (*Observaciones Médicas*). Thus, the ice on the subject was broken; and everything pointed in the direction of the advent of better days, when more light would be thrown on the disease.

Scarcely a decade had elapsed since the publication of the work of Tulpius, when a Jesuit priest, Father Francisco Colin, produced a rare volume on history wherein we read, said that when the clover and the nutmeg are in season, the southeasterly winds, rushing over the volcanoes of Maquien, Mutien, and Tidore, bring and spread diseases, particularly one known as *berber,* which in some persons causes bodily torpor with the limbs all swelled, numbness seizing the joints, and the nerves contracting; while in others the disease produces dryness. When the swelling reaches the breast region and affects the heart, sudden death may supervene. (*Labor Evangélica,* Madrid, 1663.)

About forty years later, the Augustinian, Gaspar de San Agustin, speaking of the nipa wine used in the town of Sexmoan in the Province of Pampanga, said: ". . . they crave for this wine because of its extreme cheapness, although it is unhealthy because of its excessive coldness and purges and harms whosoever drinks it to excess; and in others, it causes the diease which is called *berber,* which is among the worst in this Archipelago, because of its insidious and incurable nature." (*Remedios Fáciles para Diferentes Enfermedades,* Manila, 1712.)

Fourteen years later, in 1712, a Jesuit, Father Pablo Clarin, writes on this disease and says: "*Berber* is known because the patient generally feels cold or numbness, or a creeping sensation in the feet or in the legs, and very often a swelling which, when pressed down with the finger, causes the patient excruciating pains." (*Manual de Medicinas Caseras para Consuelo de los Pobres Indios,* Manila 1768.)

In 1768 the Dominican, Fray Fernando de Santamaria, tells us: "When the entire body gets swollen through excessive dampness, as is often the case with the fishermen and farmers who work on their wet lands, the one efficacious remedy is to massage with Burgundy Pitch the soles of the feet and to cover up well the legs, especially at night." (*See Chrónicas de la Apostólica Provincia de San Gregorio de Religiosos Descalzos de N. S. P. de San Francisco de las Islas Filipinas, China, Japón, etc.,* Sampaloc, 1738–1744, p. 19, Vol. I.)

Several years later, in 1772, Sauvages took up this same topic. Three years afterwards he was followed by Mr. Paxman; and later, in 1776, N. Fontana, an officer aboard the man-of-war *Maria Theresa,* also described with long commentaries what he called *berber.* In 1776, according to the Augustinian Martinez Zuñiga, there was an epidemic of beriberi in Batangas, and many people died. (*Conquistas de las Islas Filipinas,* Madrid, 1698, p. 451.)

Nor can or should mention be omitted of a highly interesting news-item furnished by the Franciscan, Fray Juan Francisco de San Agustin, who said that the foreigners "were receiving by way of the cost wine for daily use," and adds: "and may it come to pass that they not try to supply this want and that not so many Spaniards die suddenly in these Islands of the disease of *ver-ven,* peculiar to this region and of the nature of dropsy, which, since it is born of wine, is the more insidious; and persons may fall dead while engaged in calm conservation." (See *Estadismo de las Islas Filipinas,* Madrid, 1893, Vol. I, p. 159.)

Such a piece of information is important because it serves, not only to determine the existence of the disease, but also to point it out as endemic. Besides, in that same century another Chinese writer, Sen-Kin-Ko, made known a few symptoms of beriberi.

MORE DETAILED STUDIES ARE MADE

The coming of the nineteenth century seemed to signalize the appointed time for enlightening the Filipinos with the greatest possible amount of information regarding such a fearful malady. Until then, in spite of the good offices of the professional class and the earnestness shown by the most renowned physicians in attempting to formulate a satisfactory conclusion, the truth was that not only was there wanting a working knowledge concerning the genesis of the disease, which was being explained with theories more or less proper, but that the geographical distribution of the epidemic had not even been established.

We have said that the century glowed with promises of achievement, and it verily was so. If had hardly begun when beriberi was made the objective of the study of the English researchers Sind and Clark; and not long later, the Japanese Jachivón-Nanki was also making known the studies he had made on the disease. (*See Yatzobioki-bum,* London, 1804. English translation by Dr. Scheube.) In the same year, the malady was described by Rogers, W. Hunter, and Marshall. The latter went beyond his colleagues by describing two forms: one *paralytic* known as *barbiers,* and another *dropsical* which he called *beriberi.* On their rambles as colonizers, the Portuguese also came across beriberi in the Orient, the first among them to make mention of the sickness being Diego de Cuoto. (See *Décadas de Asia.* Década octava, Lib., 23.)

That century was doubtless keenly encouraging to the persevering seekers after truth, who were desirous of knowing thoroughly for the disease. Since that epoch, not a few studies have been made for the purpose of securing more and more detailed information, not only regarding the genesis of the sickness, but also the limitations of its mosography. So much confusion had arisen in the description of the malady that it was known under the following diverse names, besides the original *beriberi:* Anasarca (among the Negros and Chinese), Sea asthma, Badsuknezz, Ballismus, Barbiers, Bharbari, Belbel, Berben, Berber, Berbu, Beriberia, Beriberi, Berriberri, Disease of the faculties, Scurvy, Asthmatic dropsy, Hinchazas Kakek, Loempoe, Ceylon evil, "Melopatia tropical," Niloc, Paut akit papoka, and Ver-ben.

What was the pathogeny of this sickness, or whence did this word come? Neither on this concrete phase of the question is there any agreement, for while some authorities declare that the work comes from the Singhales *Chari-Chari* (*debility*), others, on the other hand, are of the opinion that the word is a corruption of the term *biri-biri* from India, as there are persons who surmise that the word comes from the Arabian *buhr* and *bahri.* (See *Apuntes para una Memoria,* Manuel Xeres Burgos, in the *Diario de Manila* for November 17 and 18, 1887; *El Beri-Beri,* by the same author; *Contestación al artículo del Sr. Luis Iglesias,* titulado "Algunas Aclaraciones Sobre el Beri-beri," in the *Diario de Manila* for February 23, 25, and 26, and March 1, 2, and 3, 1888.)

After reading the conclusions made by whoever may have taken up the study of this matter, there can be no more reasonable addition to our fund of knowledge on the terminology of the disease than the following significant assertions from no less a professional authority and historiographer than Dr. T. H. Pardo de Tavera, in his absorbing work, entitled *El Beri-beri—Su Etiología:*

"James Johnson, under the suggestion of the lecture of Bontius and under the unwarranted supposition that the name is an imposition on the part of the doctors from Malabar, who had nothing at all to do with the Malays, affirms without any hesitation that such a step had been taken perhaps because the word may imply the uncertain gait of sheep ('that waddling unsteady motion observed in sheep when walking'). Neither is the word *beri-beri* a Malabar term, nor was such a name given by Malabar people; nor can any pretense at the exotic make such a ward come to mean the unsteady movement which Johnson assumes he can make out.

"Another English author attempts to say without hesitation that the term *bhavree* means in Hindustan a goat, an assertion which is groundless because such a word does not exist in Hindustan. Marshall says that *bhavree* in Ceylon means weakness, inability to move, and that the double use of *bharvee bhavree* (corrupted into *beri-beri*) signifies a high degree, the highest point, of the weakness. Unfortunately, for this explanation of Marshall, this double use of the word, while it serves to give to the adjective the superlative degree found in the Malayan languages, is neither employed nor known in the spoken tongue of Ceylon, the Singhalese. Morever, *bhavree* does not mean debility in this language, unless it is combined with another word, *soon,* thus, *soon bhavree.* Doctor Herklett avows that *bhabari* means œdema or puffiness in Hindustan, but it is a theory without any foundation because the vocabulary of that country's language is barren of such a term. Nevertheless, the disease is known in that region under the name he mentions, but

Herklett errs in his belief because he failed to note that the name used is just a modification of *beriberi.*

"Doctor Carter takes another route in explaining the etymology by attempting to see it in Arabic. Beriberi, according to him, is very common among Arabian sailors and works more havoc on sea than on land; and inasmuch as the Arabs were since the earliest of ancient times the leading rovers on the Red Sea, they must have been the first persons in knowing this malady. As *dyspnœa,* which is characteristic of beriberi, is expressed in Arabian with the word *buhr* (asthma or suffocation) and the word sailor is *bahri,* it follows that the illness means sailors' asthma. Such an explanation, at first sight, is perfectly logical; but unfortunately, *buhr-bahri* is a word compounded through the ingenuity of Doctor Carter, means nothing in Arabian, and is used neither to designate the disease in question nor any other malady which affects people living on sea or land.

"From all of the foregoing exposition, it is manifest that the term *beriberi* has not been derived from any of the sources hinted at, and that if such a word is used in India and in the Indo-Malayan regions, it is probable that it is an importation by the Europeans that dominate such regions. The theory of Bontius also fails to give the satisfactory explanation, although it seems to me that the similarity between the name given to sheep and that given to the malady does point in the right direction of the etymology of the term. On my part in sooth, whatever efforts of imagination I may put forth, I can find no similarity between the peculiar gait of sheep and the heavy tread of a beriberi patient who shows other symptoms which should call more attention and which are more important because of the keen nuisance and acute pain caused, such as general œdema and *dyspnœa,*—peculiarities which better might have served as a basis for comparative etymology than the manner of walking. Now let us see to what length I am led by the similarity in names inexactly interpreted by Bontius:

"At the outset, I affirm that *beri-beri* is not a Malayan extraction, although the word is used in countries where the Malayan languages are spoken. To be precise in saying sheep in Malayan, we must say *kambing beriberi;* that is, beriberi goat. For shortness' sake, this term is reduced to beri-beri which, as is clearly seen, is just a qualifying word, an adjective, to distinguish the goat from the sheep. Klinkert, led by this principle, did not tarry in saying in his Malayan dictionary that this word means wooly, hairy. But why? Simply because it is used for an animal which is wooly, so that as a result it cannot mean anything else but this quality! The explanation errs because under no circumstances is the term beriberi so used in Malayan, and it is used only in combination with the word *kambing*.

"This name, it seems to me, has come neither from the Sanskrit nor from Hindustani, for the simple reason that sheep were to be found neither in Malaka nor in Malaysia previous to the arrival of the first Europeans who touched those shores, the skrit had lost already all its sway in that land, and it was Portuguese. When these people conquered Malaka, the San- Arabian that was lording it over the country; and neither does it appear to me as worthy of admiration that the Portuguese, on bringing along with them the sheep, should have chanced upon an Arabian rather than a Portuguese term to give the animals their necessary name.

"In Portuguese, *berebere* means 'from the land of the Berbers,' a country which in Spanish was known as Barbary. These people were the inhabitants of the coast of Aden (*Bargarium Emporium*) as well as of the coastline from Abyssinia to Zanzibar. The name of the principal port of the land is Berbera. In Somaliland, it is situated on the Gulf of Aden, whence pour forth the Berbers to export yellow ambergris, ivory, ostrich plumes, and sheep. The name Berber was applied to all Africans coming from the Red Sea and the eastern coast of Africa; and there is nothing strange that the sheep, which came from this region, should be called *berberes* by the Portuguese, a word which in Malayan has been translated into *kambing beriberi* (berber goat), which later was transmuted into the latest form under which it is now known. In Java this animal is known as the European goat, and in Sumatra where there are two species of sheep, the larger species is called *domba* and the other, which according to Marsden is a smaller species probably introduced from Bengal, is what is known as the berber goat."

In the middle of the last century, Buzeta and Bravo, referring to the most common ailments of the land, mention *berbu;* and later we read that while the schooner *Valiente* was in the Rio Grande de Mindanao, a number of cases of the disease were recorded among the crew. (*Diccionario Etnográfico, Estadístico, Histórico de Filipinas,* by Manuel Buzeta and Felipe Bravo, Valladolid, 1850; *Algunas Aclaraciones Sobre el Beriberi,* by Luis Iglesias, in *El Diario de Manila* for December 2, 3, 4, 6, and 7, 1887.)

A few years later, in 1874, our increasing fund of information was further added to by J. S. Pereira with his *Memoire Sur le*

Beriberi; and in 1881 Nielly assures us that both Dechambre and Bonefin had stated that during the siege of Paris in the Franco-Prussian War, many of the sick in the army showed symptoms similar to those of beriberi, in spite of the fact that rice was totally absent as an article of diet. (*Patologie Exotique.*)

THE FIRST OBSERVED EPIDEMIC IN THE PHILIPPINES

When the capital of our Archipelago was mourning the bereavements caused by the epidemic of Indian cholera, with the result that the Government authorities pronounced Manila and the provinces a hotbed of filthy and deathly infection, all of us who were eyewitnesses to such nerve-wracking days also remember that Manila was at that time the victim under the lash of another calamity at dawn on October 20, 1882, when the center of a typhoon whirled it in its vortex. It was so violent, comparable alone to that which broke out in 1856, that it razed down in a few hours the greater number of the city houses, both those of strong materials and iron or tile roofing and those made of nipa and wood which were wiped out, with thousands of persons left shelterless. Then, as if the afflictions of the people were not enough, there broke out epidemic whose spread was so rapid that the mortality was 60 per cent of the sick cases, so that thousands died, for it came to be the belief that the malady was incurable seeing that it was not known by any of the physicians of the land. (Braddon, in his work *The Cause and Prevention of Beri-beri,* London, 1907, mistakenly points out the month of October, 1882, as the date when cholera was declared existing in Manila.)

When the nervous tension of the community was at the highest pitch of anguish in the face of such scene of desolation, in the month of November of that same year, that is a few days after the passing of the harassing hurrincane, a native devotee of Hippocrates, for such was the temper and nature of the late Dr. Felipe Zamora, joined hands with his colleague Dr. Koeniger in order to repair to Dr. Jose de Antelo, who was then the Provincial Sub-Deputy of Health, and to invite his attention to the fact that the epidemic, which was then sharing with cholera the unenviable honors of working havoc among the inhabitants, was none other than beriberi.

These statements above, together with other data secured through further study of the infected persons, paved the way for the closer observation of the sick persons by the physicians;

and it was in this connection that my cherished professor and physician, Dr. Carlos Nalda, said that "at the first autopsies made, Dr. Antelo said: 'This is the beriberi from India,' " an admission which is borne out by the following official document:

"The extreme frequency with which observations have been made during the last fortnight, both in private practice and in the numbness and debility of the lower limbs, without the concomitant albuminaria, with constant discharge in the serous membranes, with functional disorders in the principal organs, and with other serious symptoms and a continuous course, arrested the attention of all the professors in the San Juan de Dios Hospital; and after a detailed study they agreed that such an illness, up to that time yet unknown in the country, was beriberi, a malady which was common in the Indian Ocean regions, the western coastline of the Bay of Bengal, Ceylon, and the Indian Archipelago; that the cause is malnutrition and undernourishment, exposure to the effluvium washed up by the tide, the mercurial changes in temperature, and in general the irregularities in the prescribed manner of living. Similar observations were made to this office by Professor Koeniger and Zamora. The disease has broken out among us after the manner of an epidemic, although without affecting the European element. It appears that this ailment is not contagious. The mortality during the last fortnight was slightly greater than that during the preceding." (See Carlos Nalda: *Beri-Beri—Segundos Apuntes para una Memoria,* in *El Diario de Manila* for December 21, 22, 27, 28, and 29, 1887, January 5, 6, 10, 11, 14, 20, 24, 26, and 28, and February 4 and 11, 1868. See also Jose Antelo: *Parte Sanitario,* in *El Comercio* for November 18, 1882.)

It was, then, possible to carry on and check up with a detailed study the statements made by Dr. P. da Costa; and Dr. Rufino Martin Besga, Professor of Medicine in the University of Santo Tomas in Manila, took the initiative with the aid of Doctors Permantier, Jose Franco, Pedro Saura, and Militino Lopez, who, as an eminent professor had said, studied the anatomic variations and traced the course of the beriberi epidemic from 1882 to 1888, and dispelled certain doubts regarding the pathogeny and the different diagnosis of this disease. (*Symptologie, nature, et pathogenie du beri-beri. Traduit du portugeis par le Dr. Bertherand,* Lisbone, 1881. A monograph that was awarded a prize by the medical academies of Brazil, Lisbon, France, and Belgium.)

Can it be true that the Philippines was free from this illness during the nineteenth century in the years previous to 1882?

No one has been able to give a categorical reply. The only known fact is that, when the opening of the Pasacao Canal in Camarines was attempted, many persons were stricken sick with what was then designated as the *Ceylon evil,* with many deaths resulting. (See Doctor Nalda's work referred previously.)

Thanks to the enthusiasm that then became evident, the aforesaid University awarded on March 8, 1885, a prize to the "Memoria" prepared by Mr. Vicente Cavanna y Surab, who was then a medical student, and the aforementioned Doctor Martin conducted among the Clinic students a contest on the subject of *Comparative Diagnosis of the Paralytic Form of Beri-Beri with the Diseases of the Medúlla.* (See *El Médico Probo tiene Siempre por Norte la Salud de un Hombre.* So great was the interest aroused by this work that the jury on awards, in speaking of it, said: "The excellence of this work, which is more to be expected from an unusual professor rather than from a student, lies principally in its originality, in the solid fund of scientific data which form a prerequisite in the different branches of medicine, in the keenness of observation evinced in the comparative diagnosis of the diseases of the medulla and beriberi, and the plain discerning medical judgment shown in undertaking the study of the nature of this latter illness. In another way, the work carries with it the interest which is born of its being actual, inasmuch as the work comes to occupy an important place in the long list of studies now carried on in connection with such an unknown ailment which is now engrossing attention everywhere, especially in the West Indies and even here in the Philippines, where it has claimed our powers of observation and research because of its endemic nature.")

Another testimony to the severity of that calamity is to be found in the work of the army doctor, Mr. Felipe Ruiz del Castillo, who was an eye-witness to the epidemic. (See *Memoria sobre el Cólera,* Cavite, 1882, wherein mention is also made of beriberi.)

Without doubt, it was in 1882 that beriberi lifted its head here as an epidemic, and not in 1883, as erroneously Doctor Iglesias tries to assure us, even though it is admitted that the disease did spread over a few of our provinces. Thus does Doctor Manuel Gomez speaks from Morong in that year: "The lifts its head with no less fury than did the preceding (cholera), another endemic affection from Indo-China, hitherto unknown in these regions, according to the opinion of several fellow-professors."

(These words may be read in the *Memoria del Médico Titular del Distrito de Morong, correspondiente al año de 1883 al 84.* The manuscript was made known to the public on pages 337–334 of my *Bibliografía Médico-Farmacéutica de Filipinas, Manila,* 1915.)

Lest there be any additional doubt on the matter, suffice it to make public whatever has been penned down regarding beriberi; and no longer difficult it is to note the exact date, as has been shown in previous paragraphs and is also said by the Spanish army doctor, Mr. Felipe Ruiz del Castillo. (*Memoria sobre el Cólera,* Cavite, 1882, wherein mention is made of the beriberi that broke out then.)

IMPETUS GIVEN TO THE STUDY OF THIS DISEASE

From that date on, it was certain that the work on beriberi was becoming more intense and enriching to our growing bibliography. It is thus that we see in 1884 the famous *Flora de Filipinas* by the celebrated author, Father Manuel Blanco, who tells us of "Ang gamot sa namamaga ang tiyan na yaon ang ipinanganganlan belbel o berben," (The cure for those with a swollen belly which is known as belbel or berben) and well-nigh at the same time a doctor of no mean reputation then, Dr. Francisco Capelo Juan, speaks at some length of beriberi. Another navy doctor, who became years later Inspector-General of Public Welfare and Sanitation and was a forceful writer in the *Diario de Manila,* Dr. Benito Francia de Leon, also took up this fatal malady by seconding the opinion of those authorities who upheld the theory that this illness was a variation, cause, or near-relative of malarial fever. (We read thus in Chapter LVI, p. 279, of *Ang Mahusay na Paraan nang Paggamot sa manga Maysaquit Ayon sa Aral ni Tissot.* Manila, 1884, Imprenta Amigos del Pais; see pp. 414–423 of the *Manual Filipino de Medicina y Cirujía Práctica,* Manila, 1884; see the *Memoria sobre el Beriberi* in *El Boletín de Medicina Naval,* Madrid, 1884.)

If in the Philippines and in Madrid the aforementioned professional men were consecrating themselves to the dissemination of the fruit of their experience, on the other side of the ocean, in the French center of culture, Doctor Rochard did also dwell in 1884 on the beriberi microbe before the Academy of Medicine of Paris. He stated that he had observed this sickness suddenly developed aboard a vessel, and for that reason he examined under the microscope a drop of blood from each of many patients, and he found in all cases long, cylindrical filaments with ramifications. In the middle of these tubes, he says, there appeared true joints which were bright and refractive and which, according to Mr. Lacerda, are the spores of the microbe. Taking all the precautions recommended by the eminent experimenter Pasteur, continues Dortor Rochard, I placed a drop of blood in matrasses containing culture solutions prepared according to the Pasteur method; and at the end of two or three days the solutions, which hitherto were transparent, had become muddled with a great number of the tubes and spores previously observed in the blood of the sick. (See *Etiología del Beriberi*, in *La Correspondencia Médica de Filipinas* for the months of October, November, and December, 1893, and January, February, and March, 1894.)

OTHER EPIDEMICS

Did the epidemic of 1882 last long? While Mr. Carlos Nalda in 1887 has this to tell us—"in the four or five years we have been putting up with this disease"—and thus makes us believe that the epidemic did last in all that period, Mr. Alfonso Maseras, on the other hand, makes mention of the epidemics of 1882, 85, and 86; that is, that the illness afflicted the people in three separate years, although only a sort interval may have separated each other. (This work was inserted in the *Revista de Medicina y Cirujía Práctica* for the month of November, 1891.)

In the said year of 1887, there broke out in Achin, a Dutch possession, an epidemic of beriberi which produced no little alarm because in only one day there were registered at the Panteh Perak Hospital 7 cases. There is no doubt that the sickness was spread to Manila, where it was rampant from August, 1887, to January, 1888; and during that time the San Juan de Dios Hospital admitted 215 cases whereof, fortunately, only 15 died.

It was also in 1887 that Dr. Juan Miciano made a personal collection of clinical histories wherein he demonstrated as certain that tuberculosis should be included in the etiology of beriberi. Several of our provinces were no doubt infected with this ailment, inasmuch as it was known that cases were registered aboard the cruisers *Albay, Manileño,* and *Calamianes* which were anchored at Puerto Princesa.

In that same year, on the strength of the opinions announced by Drs. Guy Vinson, Richard, Dumon Ducheune, Le Roy de Mericourt, and others, a Spanish physician of Granada, Dr. Francisco Granizo y Ramirez, published a modest pamphlet entitled *Estudios sobre Patología Exótica;* and on page 7 thereof speaks of beriberi.

Was the epidemic continuous, or did it reappear in 1888? This query is made because in an unpublished work we have before us, we read that in the first quarter of the year 490 children and 105 adults died of what was then called eclampsia (now beriberi), a mortality which gives the proportion of 1 to every 100 inhabitants and 1 to every 833 inhabitants, respectively, in only one quarter of the year; so that in a twelve month, if these figures can form a correct basis, fond mothers must have shed sad tears over 2,000 children, or 20 for every 1,000 inhabitants, which is a rather high percentage, and about 500 adults or 5 to every 100 inhabitants,—and all these in the capital of the Islands only. Undoubtedly, beriberi did not disappear completely seeing that in 1892 there were 262 registered cases of this illness. (Manuel Xerez Burgos—*Estadística y Demografía Sanitaria,* 1888.)

POPULARIZING THE KNOWLEDGE OF THIS DISEASE

What an admirable attitude was taken by the doctors, both in the Philippines and in other countries, in cheerfully taking up the study of this ailment with the aim of popularizing their knowledge!

In distant Madrid there lived a cultured countryman of ours, Dr. Manuel Santamaria, who in 1891 treats of *The Chorea Beriberi.* Another Filipino, well known as a versatile and prolific author, Dr. T. H. Pardo de Tavera, put forth the following year *Medicinal Plants,* where in speaking of the *Celastrineas* he mentions the *Celastrus paniculata,* which is the *Diosma serrata* of Father Blanco. While referring to the uses of this plant, Doctor Tavera says: "In India, through a primitive method of distillation, the people extract from the seeds an oil of a dark color and empyreumatic odor which, under the name of *Oleum nigrum,* has been proclaimed by Doctor Herklotz as a superior remedy against beriberi, and then adds, 'This oil, in doses of 10 to 15 drops, twice a day, is a vigorous stimulant whose action is perceived in abundant perspiration several hours after taking.' In beriberi cases, he continues, Malcolmson found very good results, above all in recent cases and in those where the symptoms of nervousness and paralysis are predominant." (This book of Dr. Santamaria was printed in Madrid in the year 1892, and on page 92 we read what has been quoted. Doctor Tavera speaks thus in his work *On Beriberi,* p. 311. See *Dymock* on p. 176 of the magazine *The Vegetable Materia Medica of Western India,* Bombay, 1885.)

Under the heading *Beriberi* in that same year, Mr. Agustin Planter y Goser, Chief Surgeon of the Spanish Army, describes the illness in an interesting book, which copying from Le Roy de Mericourt, reproduces the following statistics to show the seriousness of the malady: "White population—Sick, 215 and 2657; died, 56 and 855; percentage of sick, 25 to 100 and 33 to 100." (See *El Archipiélago Filipino—Estudio Acerca de Su Topografía Médica, Enfermedades Propias de Aquellas Islas, y Notas Estadísticas.* Madrid, 1892, pp. 54–60.)

(Continued on December Number, Vol. III, No. 12)

A SUGGESTION FOR INTENSIVE YAWS CAMPAIGN

Manila, May 16, 1923

The DIRECTOR OF HEALTH, *Manila*

Sir: One year has now elapsed since His Excellency the Governor-General has asked for a plan to make the campaign for yaws more effective. At that time it was decided to let the physicians in the locality do the work. Accordingly, circulars were sent to different provinces to that effect. One year has now passed since then and we can now tell how effective the campaign has been for the past year from reports from these provinces.

From these reports, we find that the Province of Rizal, whose officers have been previously instructed, is the only one seemingly making a headway in the campaign. The officers at Bulacan and Ilocos Norte have also been instructed; but up to the present, no reports have been received from these provinces as to how the campaign is getting along. Recently, officers of Camarines Sur have also been instructed. Efforts of the other provinces may be considered nil. From this fact we conclude that we are not making much progress. Even after instructing the officers in some of the provinces at the expense of some six thousand pesos, the campaign thereafter appears to be at a standstill. Now, supposing that we have treated every case at the time of the campaign, an impossible feat then, yet there remain cases, still in the incubation period, which will manifest themselves in twelve days or one month. These cases have to be subsequently treated, or they will transmit the disease to others, and so on *ad infinitum*. So the campaign does not end with one visit to a place.

What are the drawbacks in letting the local officials do the work?

1. They are not sufficiently trained to handle so potent and dangerous a drug as is needed for treatment. We all know that not every physician is qualified to handle this drug, no matter if he comes from one of the best universities; because undergraduate schools do not try to make specialists out of every physician they graduate. In the provinces where I have shown these officials how to give intravenous injections, subsequent visits showed that most of them disregarded asepsis and sterilization and even neglected all precautions against rousing prejudice against the drug; so that, if one case occurs with fatal results, even if one thousand cases have been previously treated successfully, the campaign will have to be stopped for a number of years as nobody will come thereafter. The training of local physicians on how to give the treatment, therefore, is not to be further encouraged.
2. These physicians are now sufficiently occupied with different campaigns and local health problems so that they are prevented form making an intensive campaign against yaws. What with smallpox vaccination, cholera, typhoid fever, and dysentery, local health work, and report—these physicians are sufficiently occupied!
3. Most of these cases are in out-of-the-way places where there are no regular physicians to compel obedience.

To make the campaign more effective, the undersigned reiterates his previous recommendation of a commission specially created for this purpose. Such a commission need not be big or expensive as was first thought, and in the end it will function more satisfactorily and will cost the Government less. The commission will take one or more neighboring provinces and clear them of the disease. Thereafter, permanent clinics shall be established in most advantageous places and kept open till the province is entirely free from infection when the commission may move to a new province.

As most of these cases are along the coast and there are no other means of transportation except by boat (Zambales, Batanes, Catanduanes, Samar, Antique, Masbate, Sorsogon, and Cebu) the undersigned suggests, the borrowing of the submarine-chaser, now said to be lying idle in the Bay, and refit it for this purpose. This boat can also be used as an emergency hospital and dispensary at the same time. Our trip to these different provinces has shown us, and His Excellency the Governor-General bears us out, that in some of these places there are no physicians and the people do not get even crudest medical attention. In such districts, this boat can be used; and in some such districts this disease also abounds, as may be seen from the accompanying list of infected provinces. Another reason for acquiring such a means of transportation is the difficulty and inconvenience of waiting for regular boats going to these out-of-the-way places (Batanes, for example, the regular boat only comes, according to newspaper reports, once in six months). Then again the transportation means used are small frail rowboats making travel extremely dangerous,— at the mercy of the wind, sea, and man-power. Frequently, one has to stop in a byway place for forty-eight hours or two weeks to wait for favorable winds or an abatement of the sea. Such places are the Caramoan Peninsula, Zambales, Batanes, Masbate, Antique, and Samar. These places are among the most heavily infected.

It is a mistake to say that yaws is a comparatively benign disease, as is shown otherwise in the accompanying pictures. In the primary stage, deep ulcers are sometimes seen which may last for six months or one year. In the secondary stage, persons attacked by the disease are frequently bed-ridden for weeks because of fever and pain in the bones. The appearance of the individual at this stage is already repulsive, and people thus suffering are frequently ostracized by the rest of the community. From this stage on, the disease may become aggravated; and in the tertiary stage in some cases the limbs are mutilated as to be of no further use to the individual and in others, they are so diseased that it would be better for the limbs to be amputated. Then twenty years after the first attack, the feet and hands crack and are fissured so as to prevent the individual from working for months, especially during the planting season.

From the report of thirty-three provinces on hand, 9,577 cases are reported. We know from past experience that only one-third of the cases are reported. Basing our calculation on one-third of the cases reported, we note that there are then 28,731 cases in the whole Archipelago. This is a conservative estimate as returns from nine provinces are not on hand.

It must not be forgotten that 85 per cent of these cases are in growing children of 5 to 16 years. These children are kept from school, they become undersized and perhaps mutilated so as to be of no further use if not as a burden to the state, when a 70-centavo worth of medicine can prevent all of this disability and make them robust and useful citizens.

Respectfully submitted,

P. GUTIERREZ
Assistant Surgeon, P. H. S.

MISCELLANEOUS

CONTRIBUTIONS OF THE PHILIPPINE HEALTH SERVICE FOR JAPAN RELIEF WORK

Up to date a total of ₱1,038.16 for Japan Relief Work has been received at the headquarters of the Philippine Health Service from different health districts. Only the Provinces of Abra, Batanes, Davao, Leyte, Nueva Ecija, Palawan, and Samar have not yet sent in their respective contributions.

The City of Manila and the Provinces of Batangas, Cebu, Occidental Negros, Pampanga, and Tayabas have contributed the most.

COURSE FOR SANITARY INSPECTORS

The course for sanitary inspectors which was opened on September 17 last and conducted at the University of the Philippines and San Lazaro Hospital under the auspices of the Philippine Health Service is going on nicely. Thirty-two students have registered for the year, many of whom are high-school graduates. The course has student representatives from Batanes and Mindanao, besides those from Luzon and the Visayan Islands. All are showing great interest in their work.

SMALLPOX VACCINATION IN ZAMBOANGA

Doctor Aguilar, District Health Officer of Zamboanga, reports on October 29 that the vaccinating party in the municipality of Zamboanga and the municipal district of Taluksangay has already completed the vaccination work. A total of 22,112 vaccinations were performed from June 23 to October 8 with a total working days of 88.

Doctor Aguilar also reports that the number of vaccination performed by each vaccinator was comparatively small. This is due to the fact that the inhabitants of these places especially those of the municipal district of Taluksangay are scattered in barrio districts, some of which are located in various small islands where the transportation is rather difficult. The vaccinating party progressed satisfactorily in spite of the difficulties in transportation. The work did not receive any objection on the part of Mohammedan population.

The vaccination party is now conducting vaccination work in the municipal district of Malangas whence they will proceed to Margosatubig.

MALARIA CAMPAIGN IN PAMPANGA

Mr. W. D. Tiedeman, Sanitary Engineer of the Rockefeller Foundation, who is in charge of the malaria campaign at Pampanga in coöperation with the Philippine Health Service, reports on November 5 that the work is proceeding as to routine work as previously outlined. He states that the cane-cutting season has just commenced with the accompanying influx of labor from the northern provinces of Ilocos Norte, Ilocos Sur, Pangasinan, Tarlac, La Union, and Zambales. The new laborers coming to the barrios who are under observation are now being examined. Of the 107 men recently examined, 43 per cent were positive for malaria by blood examination.

Mr. Tiedeman also reports that at Prado of the municipality of Lubao, Pampanga, where the control of mosquito breeding is being attempted, all remaining breeding places are being oiled weekly with good results and at a small cost. Additional agricultural drainage is planned which will make this work more simple. He further reports that the two experiments referred to in the last month's report have not been started, due to delay in getting materials, but all preparations have been made for getting them under way within the next two weeks.

CEBU HEALTH BULLETIN

The Health Bulletin No. 4 of Cebu Health District appeared on November 1 with an article of Doctor Martinez, entitled "The Care of Patients with Communicable Disease."

The bulletin likewise states that the provincial assistant sanitary inspector of Dumanjug, Balamban, Naga, Talisay, and Aloguinsan were presented honor diplomas for having more toilets constructed of the Antipolo system and clean homes and yards in their respective districts for the month of October. These are assistant sanitary inspectors Ernesto Alpuerto, Casimiro Cañete, Serapio Boo, Damian Alferez, Esteban Rosales, Esteban Garces, and Esteban Echavez.

ONE FEMALE NURSE NEEDED IN CUYO HOSPITAL

It is hereby announced that one female unmarried nurse is needed for assignment at the Cuyo Hospitial, Cuyo, Palawan, Philippine Health Service, with compensation of ₱720 per annum, with subsistence, quarters, and laundry. Applicants should present themselves personally to the Executive Officer, Philippine Health Service, Santa Potenciana Building, Intramuros, Manila, between 8 a. m. to 12 noon and 1 to 4 p. m. during office days.

GOITRE CASES IN NUEVA ECIJA

The District Health Officer of Nueva Ecija reports on November 1 that a total of 80 cases of goitre were found so far—62 cases in the municipality of Peñaranda and 18 in Papaya.

A total of 58 cases have bilateral enlargement of the thyroid gland and 22 unilateral. Seventy cases are females and ten males, and 56 married, 18 single, and 6 widow.

YAWS CAMPAIGN IN BATANGAS

Doctor Laygo, Assistant Chief, Division of Provincial Sanitation, in his inspections of the general sanitary conditions of Batangas from November 3 to 6, inclusive, reports, among other things, that with regard to yaws campaign definite and very encouraging results were obtained. The first clinics were held on May 28. The last treatments were done on October 11. Intravenous injections of neosalvarsan were used. At the beginning of the campaign, some difficulties were experienced in securing patients. After the first cures had been made patients case on their own initiative and much enthusiasm was shown since on their part.

Every case treated got well. A few repalses occurred but each invariably was cured with repeated retreatments. No accidents or complications were noted. Patients treated included all conditions of sex, age, and occupation. The youngest patient treated was a baby nine months old. The general public, aside of those directly benefited by the campaign, are highly gratified of the success of the campaign. The ultimate effects of the campaign as health propaganda cannot be gainsaid.

A total of 649 were treated distributed in the different municipalities as follows: Taal, 237; Alitagtag, 62; San Luis, 7; Lemery, 90; and Bauan and Mabini, 253.

HOOKWORM CAMPAIGN IN NUEVA ECIJA

Surgeon Caro, in charge of Hookworm campaign in Nueva Ecija, reports on November 12 that a total of 2,183 hookworm cases were treated with carbon tetrachloride distributed in the different municipalities as follows: Cuyapo, 1,116; Guimba, 369; and Muñoz, 698.

In the first municipality, the percentage of hookworm was 68 per cent and 62 tapeworm cases; in the second, hookworm 37 per cent and 6 tapeworm cases; and in the third hookworm 80 per cent and 4 tapeworm cases.

The municipal councils of Santo Domingo, Talavera, and Nampicuan of the province have requested that the hookworm campaign be conducted in these municipalities, and this will be done.

DOCTOR FAJARDO BACK FROM SOUTH

Doctor Fajardo, Chief of the Division of Provincial Sanitation, returned on November 13 after an inspection of twenty-three days in the south in company with the Governor-General. He inspected the municipalities of Cotabato, Parang, Malabang, Jolo, Zamboanga, Dansalan, Momungan, Mambajao, Dumaguete, Siquijor, Iloilo, Capiz, Cuyo, Culion, and Romblon.

Doctor Fajardo reports that the health condition in these places is satisfactory altho in Romblon mild cases of influenza have been registered. In general, the total and infant mortality rates are lower as compared with those of past years. Cleaner municipalities have been noted with better health organizations. Every day the public seems to have more faith on the health service.

In Siquijor, the vaccinating party No. 1 is conducting anti-smallpox vaccination. One hundred per cent of the school children at this place have been vaccinated and 25 per cent showed positive vaccinations.

In Cotabato, more than 2,000 yaws cases were treated with intravenous injections of neosalvarsan. One week before the event at Bugasan occurred, Doctor Roque, District Health Officer of the province, was at the place administering yaws treatment in company with Datu Santiago. Doctor Roque's special order to proceed to Rizal to assume the duties of the District Health Officer there has been suspended by petition of the Moro datus and the Government authorities of the province.

The hospitals in Mindanao have registered more patients, especially in Cotabato and Zamboanga hospitals, than the previous years, but the health officers have to limit the number due to lack of funds. The same way that the dispensaries do not have in stock sufficient medicines for lack of funds.

DOCTOR BANTUG LEAVES FOR LEPER COLLECTION TRIP

Doctor Bantug, acting Executive Officer of the Philippine Health Service, is leaving today for a leper collection trip to the Visayan Islands. He will return after three weeks. Doctor Leveriza of the Bureau of Science will be the bacteriologist of the trip.

TEMPORARY ASSIGNMENT OF DOCTOR FERNANDO

Doctor J. S. Fernando, a pensionado of the Philippine Health Service, who has recently returned from the United States via Europe, has been temporarily assigned at the office of the Chief, Metropolitan Division of the Philippine Health Service, Manila.

DENTAL CLINIC IN LAGUNA

Doctor Carlos, Provincial Dentist of Laguna, reports on November 10 that a total of 331 persons were treated during the month of October, 277 of which were school children. Sixty extractions, 36 fillings and a total of 402 treatments were done.

NEW TARLAC HOSPITAL ON THE JOB

Doctor Tablan, District Health Officer of Tarlac, reports on November 2 that from October 16 to the end of the month the new Provincial Hospital registered a total of 75 consultations, 68 of which were adults and 7 children.

TRACHOMA IN THE CITY OF MANILA

Trachoma is a disease of the eye. It is commonly called "granulated lids." The disease existed in the Manila schools as far back as 1911 when regular medical inspection was begun. Trachoma is a disease of the Orient and was known in the days of Cicero; so probably it was existant in the Philippine Islands before the Spanish time. South of the Pasig River less than one per cent of the children are found to have trachoma. North of the Pasig River about six times as many children are affected, making 700 to 800 cases among about 40,000 students.

The children entering school for the first time are examined at the Health Service before the opening of the school year, those having contagious diseases not being allowed to enter school. About one per cent of those wishing to enter have trachoma. At the regular school inspections, two or three times a year, those having trachoma are excluded from school and receive treatment at the school clinics. At the Intramuros Clinic from three to eight or at times twenty or more cases are treated each day. Of the 15,947 students treated in 1922, 1,524 were trachoma.

A trachoma clinic is inexpensive. A small supply of gauze, absorbent cotton, boric acid and boroglyceride of tannin, 5 per cent, is all that is required to last a long time; and also one per cent solution of cocaine. In treating the school children, the lid is treated by rubbing with gauze saturated in boric acid solution. Cocaine is first instilled in the eye, which is afterward irrigated with boric acid solution. In a few minutes the patient can leave the clinic. The next day the 5 per cent of boroglyceride of tannin is used, one drop in each eye. The treatment alternates in this manner until the patient is cured, usually ten days or two weeks, though advanced cases take longer and very recent cases less time.

DOCTOR LAYGO LEAVES FOR INSPECTION

Doctor Laygo, Assistant Chief, Division of Provincial Sanitation of the Philippine Health Service, left on November 19 for inspection in the Province of Albay, Camarines Norte and Sur, Sorsogon, and Masbate. He will return after a few days.

THE TROPICAL ULCER

The tropical ulcer is caused by spiral germs called spirochetes. It is commonly called in Tagalo "tibac" or "nacnac." It occurs more commonly among debilitated children. Among school children who wear shoes, slippers, or wooden shoes, it is not common. Among those barefooted whose feet often get wet and soiled with mud, and especially with some forms of grass blight, it is common. This is also true among school children living in the same house or sitting side by side in the school room.

The ulcers begin to appear in the month of May, and increase in the months of August, September, and October when the weather is damp. The decrease becomes noted in November and December when the weather begins to dry.

An ulcer will begin from a mere scratch or from an itch. It is commonly found on the legs, feet and ankles. It varies in size from a small pea to eight centimeters in diameter. Ulcers of enormous size may sometimes be found by the fusion of several small ulcers. They may involve bones. The most neglected ulcers are blackish and contain disintegrated materials.

The ulcer does not seem to trouble the effected child. He goes about in the usual way. If he keeps the ulcer clean, he feels no pain, or the odor of the discharge annoy him. It is scratchy, however, and in many cases scratching increases the size of the ulcer.

The affected child·shall not be allowed to come in contact with other children. In the schoolroom he should be separated from the rest of the class, but must not be excluded. Clean homes and sanitary surroundings, clean clothing, frequent bathing and fresh air are among the important hygienic measures. The constant wearing of shoes will prevent the accumulation of dirt about the naked feet and legs, and this will prevent the disease.

School children suffering from ulcers should regularly go to any of the Philippine Health Service dispensaries for treatment until cured. A three per cent solution of neosalvarsan, applied locally, has been found effective.

A total of 7,788 cases of ulcers were reported and given treatment in municipal dispensaries for 1922, 6,324 of which were discharged as cured.

REPORT OF THE DISTRIBUTION OF ASSORTED VACCINES AND SERA

Doctor Mencias, Acting Chief, Property Division, Philippine Health Service, reports that during the month of October, the following quantities of vaccine and sera were distributed in Manila and the provinces: antidiphtheritic serum, 100,000 units; anti-tetanic serum, 309,000 units; antidysenteric serum, 125 ampules; gonococcus vaccine, 220 ampules; cholera vaccine, 8,580 c. c.; mixed typho-cholera vaccine, 78,855 c. c.; typhoid vaccine 24,120 c. c.; fresh vaccine virus, 248,800 units; and dried vaccine virus, 34,850 units. All this cost ₱21,888.

ANTI-LEPROSY TREATMENT AT SAN LAZARO HOSPITAL

Doctor Samuel Tietze, Physician in charge, Leper Department, San Lazaro Hospital, Manila, reports on November 17 that for the month ending November 15, there were 428 cases under anti-leprotic treatment at San Lazaro Hospital. One hundred and one of these cases were transferred on November 17 to Culion Leper Colony. Eight cases received permanent discharges; 4 cases were given certificates of parole and 4 died. One case was brought from Culion Leper Colony.

FEMALE NURSES NEEDED FOR MINDORO SUGAR COMPANY

The Mindoro Sugar Company needs two female nurses for hospital work there. Those who desire to apply for the position shall present themselves to the Acting Executive Officer, Philippine Health Service, at their earliest convenience, for further information.

COLONEL MUNSON LEAVING FOR JAVA

Colonel E. L. Munson, Health Adviser to His Excellency, the Governor-General of the Philippine Islands, is leaving today for Java on the S. S. *Apo* in company with the Chief Executive. Colonel Munson will study the system of sanitation of that country. He will visit hospitals, asylum, laboratories and others that may be of interest.

ANTHRAX IN MAN IN PAMPANGA

The District Health Officer of Pampanga reports that during the week ending November 10, 4 cases of anthrax in men with no deaths occurred in Candaba in the form of malignant pustules located in the hands and feet. These started as papules on the skin becoming gangrenous within a short period of time. These cases were treated with phenol at the municipal dispensary, which showed marked improvements after four days.

During the week ending November 25, one anthrax case died at Arayat. History of the diseased reveals that he had handled horns of carabaos that died of the disease.

Anthrax may be transmitted from animal to man by inoculation, ingestion and sometimes by inhalation. Hogs are known to be potential carriers of the disease.

The Province of Pampanga, Tarlac, Nueva Ecija, Bataan, Rizal, Bulacan, and Pangasinan are now infected with anthrax, but except the former, all have not as yet reported anthrax cases in man. Doctor Leoncio Lopez-Rizal, Acting Chief, Division of Communicable Diseases, states that the Bureau of Agriculture with the coöperation of the health authorities of these infected health district will soon conduct a joint campaign against the disease.

As preventive measures against the disease, the following should be observed:

(*a*) Isolation of infected animals.

(*b*) Dead animals should be burned if possible, and if this is not possible, they should be buried at least two meters deep covering the body with quick lime.

(*c*) Prohibit the sale of milk of infected animals.

(*d*) Prohibit the sale and consumption of the flesh of infected animals.

(*e*) The sale and handling of hides of infected animals shall also be prohibited.

(*f*) Disinfection of dejecta of infected living animals and the hands of persons handling animals died of the disease.

(*g*) Close inspection and examination of the glands of hogs intended for public consumption to detect carriers and prohibit the sale of same should the same be proved to be a carrier.

YAWS CLINIC IN DAVAO

The District Health Officer of Davao reports on November 12 that a total of 90 persons received new salvarsan injections in the municipalities of Camanza, Buna, Moncayo, Compostela, Maniki, Mabantao, Pagsambanza, and Esperanza for the month of October. Of these, 62 are males and 28 females; 28 are children and 52 adults.

THE HOSPITAL LIBRARY

THE HOSPITAL LIBRARY, by Edith Kathleen Jones of the Division of Public Libraries, formerly librarian of McLean Hospital, Waverly, Mass., surveys the history of hospital library service, still in its pioneers stage; discusses problems of organization, administration, book selection for patients of different types and different ages, the medical library, books for reading aloud; and contains a classified list of over 2,000 books including fiction, non-fiction, periodicals, children's books and books for the nurses' library.

THE HOSPITAL LIBRARY is unique in its field; it answers many questions; physicians and nurses in progressive hospitals everywhere are beginning to consider. The book is illustrated with a number of photographs and its classified lists will be found valuable in any library. Cloth, $2.25.

—*American Library Association, Chicago, Ill.*

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of November, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	303,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,364
No. 2, Meisic	104,087
No. 4, Sampaloc	49,321
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	303,882

[1] Estimated on the basis of last figure published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, NOVEMBER, 1923

Date	Pressure[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	758.86	26.0	34.0	5	21.7	9	28.9	29.1
11-20	56.98	25.0	32.4	12	20.1	15	28.1	28.1
21-30	59.10	25.6	31.8	26	19.9	27	27.4	27.6

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	82.8	89.4	3	76.9	5
11-20	84.1	96.9	19	71.0	16
21-30	83.7	87.4	24	78.2	26, 27

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, NOVEMBER, 1923—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1–10	N. E.	1,193.5	163.0	1	27.3	4.4	5
11–20	NE quad.	2,962.0	826.0	18	21.7	4.2	16
21–30	SW, SE q.	1,443.0	285.5	21	27.2	3.6	23, 27

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1–10	49 20	9 35	2	18.6	6
11–20	24 00	5 50	12	575.9	7
21–30	52 05	8 00	23	1.1	3

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	4	7	11	42.73
Filipinos	533	493	1,026	44.99
Spaniards	3	2	5	31.14
Other Europeans	5	2	7	75.69
Chinese	29	14	43	29.32
All others	3	8	11	61.26
Total and average	577	526	1,103	44.19

BIRTHS BY DISTRICTS

Health district	Legitimates			Illegitimates			Grand Total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	108	104	212	14	9	23	235	76.57
No. 2, Meisic	80	67	147	6	6	12	159	18.60
No. 4, Sampaloc	101	93	194	3	4	7	201	49.62
No. 5, Tondo	192	197	389	11	9	20	409	61.80
No. 6, Paco	60	36	96	2	1	3	99	37.04
Total	541	497	1,038	36	29	65	1,103	44.19

Number of births attended by physicians, living, 367; stillbirths, 20.
Number of births attended by midwife, living, 73; stillbirths, 1.
Number of births attended by family, living, 663; stillbirths, 14.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS, IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	1	....	1	3.88
Filipinos	355	284	639	28.02
Spaniards	3	....	3	18.68
Other Europeans	1	1	2	11.62
Chinese	20	3	23	15.68
All others	1	1	2	11.14
Total and average	381	289	670	26.84

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	118	88
Divorced	....	1
Widowed	32	50
Single	294	189
Condition not stated	1	1
Total	445	329
Grand total	774	

Stillbirths	35
Number of deaths with medical attendance	358
Number of deaths without medical attendance	416

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	53	30	2	....	85
30 days to under 1 year	79	53	17	6	155
1 year to under 2 years	32	26	2	5	65
2 years to 4 years	30	27	1	3	61
5 years to 9 years	10	10	....	1	21
10 years to 14 years	2	4	2	2	10
15 years to 19 years	11	6	4	6	27
20 years to 29 years	29	19	8	5	61
30 years to 39 years	27	30	8	3	68
40 years to 49 years	26	25	7	1	59
50 years to 59 years	32	13	5	5	55
60 years to 69 years	29	20	5	....	54
70 years to 79 years	11	11	2	2	26
80 years to 89 years	6	7	1	1	15
90 years to 99 years	4	7	....	....	11
100 years and over	....	....	....	....	....
Age not stated	....	1	....	....	1
Total	381	289	64	40	774

DEATHS AND DEATH RATES PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	138	44.97
No. 2, Meisic	100	11.70
No. 4, Sampaloc	150	37.03
No. 5, Tondo	314	47.45
No. 6, Paco	72	26.94
Total	774	31.01

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			8	6					3				17
4. Malaria				2									2
6. Measles			2	3									5
9. Diphtheria and croup			1										1
10. Influenza			2	2	1								5
14. Dysentery			7	8									15
17. Leprosy			1										1
18. Erysipelas			1										1
20. Purulent infection and septicæmia				1									1
22. Anthrax			1										1
24. Tetanus			6										6
27. Beriberi			3	1									4
27a. Beriberi, infantile			36	23									59
28. Tuberculosis of the lungs			71	53	2				2				128
29. Acute miliary tuberculosis			1										1
30. Tuberculous meningitis			4	4									8
31. Abdominal tuberculosis			1										1
32. Pott's disease				1					1				2
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			1	1									2
41. Cancer and other malignant tumors of the peritaeum, intestines, rectum				1									1
42. Cancer and other malignant tumors of the female genital organs				3									3
45. Cancer and other malignant tumors of other organs or of organs not specified			2	2									4
47. Acute articular rheumatism			1	1									2
48. Chornic rheumatism and gout			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			14	4									18
(2) Cerebro-spinal meningitis (undefined)			1										1
(3) Cerebro-spinal fever				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense—Cont'd.													
63. Other diseases of the spinal cord			1										1
64. Cerebral hæmorrhage, apoplexy			2	5					1				8
66. Paralysis without specified cause			3										3
68. Other forms of mental alienation			1	1					1				3
III. Diseases of the circulatory system													
78. Acute endocarditis			1	2									3
79. Organic diseases of the heart			6	7				1	3				17
80. Angina pectoris			2	1									3
81. Diseases of the arteries, antheroma, aneurysm, etc			1						1				2
IV. Diseases of the respiratory system													
89. Acute bronchitis			26	20						1			47
90. Chronic bronchitis			7	6									13
91. Broncho-pneumonia			27	29					2	1			59
92. Pneumonia			8	6					1				15
93. Pleurisy			2										2
96. Asthma			3										3
98. Other diseases of the respiratory system (tuberculosis excepted)									1				1
V. Diseases of the digestive system													
102. Ulcer of the stomach		2											2
103. Other diseases of the stomach (cancer excepted)			1										1
104. Diarrhœa and enteritis (under 2 years)			7	7									14
105. Diarrhœa and enteritis (2 years and over)			3	5									8
108. Appendicitis and typhlitis			1										1
109. Hernias, intestinal obstructions			3										3
110. Other diseases of the intestines			1										1
113. Cirrhosis of the liver			3										3
115. Other diseases of the liver			1	2									3

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			3	8									11
120. Bright's disease			14	9					1				24
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				3									3
137. Puerperal septicæmia				4									4
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart			1	1									2
(3) Other congenital malformations							1						1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Prematured birth (not stillborn)			6	5								1	12
(2) Congenital debility			34	16					2	2			54
152. Other diseases peculiar to early infancy:													
(1) Injuries at birth (not stillborn)				1									1
(2) Other causes peculiar to early infancy	1		3	1									5
XII. Old age													
154. Senility			9	18									27
XIII. Affections caused by external causes													
155. Suicide by poison			1										1
167. Burns (conflagrations excepted)				2									2
169. Accidental drowning			2										2
172. Traumatism by fall			1	1									2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill-defined			4	3					1				8
Total	1		335	284	3		1	1	20	3	1	1	670
Grand total	1		639		3		2		23		2		670

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	1									5
4. Malaria									1				1
9. Diphtheria and croup				1									1
10. Influenza			1										1
14. Dysentery			1	4									5
17. Leprosy			3										3
24. Tetanus									1				1
27a. Beriberi, infantile			8	1									9
28. Tuberculosis of the lungs	1		7	5	1				1		1		16
31. Abdominal tuberculosis			1										1
35. Disseminated tuberculosis				1									1
40. Cancer and other malignant tumors of the stomach, liver			1										1
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1					1				2
53. Leuchæmia			1										1
54. Anæmia, chlorosis					1								1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			2	1									3
64. Cerebral hæmorrhage, apoplexy			2	1									3
III. Diseases of the circulatory system													
79. Organic diseases of the heart				1									1
IV. Diseases of the respiratory system													
89. Acute bronchitis			6	2									8
90. Chronic bronchitis			1										1
91. Broncho-pneumonia				2									2
92. Pneumonia				1					1				2

V. Diseases of the digestive system													
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)				1									1
105. Diarrhœa and enteritis (2 years and over)			1	1									2
108. Appendicitis and typhlitis			1										1
113. Cirrhosis of the liver	1		1	1									3
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1	1									2
120. Bright's disease			2										2
126. Diseases of the prostate			1										1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				2									2
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			2	1									3
144. Acute abscess			1										1
145. Other diseases of the skin and annexa				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema: (2) Congenital debility			2	1					1				4
XII. Old age													
154. Senility				2									2
XIII. Affections caused by external causes													
155. Suicide by poison				1									1
169. Accidental drowning				2									2
171. Traumatism by cutting or piercing instruments			1										1
175. Traumatism by other crushing (vehicles, railways, landslide, etc)			1										1
Total	2		53	40	2				6		1		104
Grand total	2		93		2				6		1		104

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
10. Influenza					1	1
14. Dysentery					3	3
18. Erysipelas				1		1
24. Tetanus				4		4
27a. Beriberi, infantile		1		5	62	68
28. Tuberculosis of the lungs					1	1
32. Pott's disease					1	1
35. Disseminated tuberculosis					2	2
61. Simple meningitis:						
(1) Simple meningitis					5	5
89. Acute bronchitis				1	38	39
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					15	15
92. Pneumonia					1	1
104. Diarrhœa and enteritis					11	11
109. Hernia, intestinal obstruction					1	1
115. Other diseases of the liver					1	1
119. Acute nephritis					3	3
150. Congenital malformations (still-births not included):						
(2) Congenital malformations of the heart	1			1		2
(3) Other congenital malformations	1					1
151. Congenital debility, icterus, and sclerema:						
(1) Premature births (not still-born)	9	2		1		12
(2) Congenital debility	9	5	1	23	20	58
152. Other causes peculiar to early infancy:						
(1) Injuries at birth (not still-born)				1		1
(2) Other causes peculiar to early infancy	2	2		1		5
Total	22	10	1	38	169	240

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,410
Number of rats caught by spring traps	4,032
Number of cage wire traps set	712
Number of rats caught by cage wire traps	2
Number and kind of baits (coconuts)	22,122
Number of poison portions placed	21,452
Number of rats found poisoned	574
Number of rats killed by clubs and other weapons	2,458
Number of rats found dead from other causes	1,163
Total number of rats otherwise caught, found dead or killed	8,229
Total number of rats sent to the laboratory for examination	8,229
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID REPORTED DURING THE MONTH OF NOVEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	2	0	10	2	6	1	12	1	3	0	37
Female	3	0	5	0	8	0	13	0	2	0	31
Dead:											
Male	0	0	0	0	0	0	1	0	0	1	2
Female	1	0	1	0	0	0	0	0	0	0	2
Total:											
Male	2	0	10	2	6	1	13	1	3	1	39
Female	4	0	6	0	8	0	13	0	2	0	33
Grand total	6	0	16	2	14	1	26	1	5	1	72

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	2	0	2	0	3	1	2	0	11
Female	0	0	1	0	2	0	3	0	0	0	6
Total	1	0	3	0	4	0	6	1	2	0	17

Total cases reported within the month in the City of Manila		96
Resident cases	80	
Non-resident cases	14	
Foreign cases	2	
Total deaths reported within the month in the City of Manila		22
Deaths among resident cases	17	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Total cases confirmed as typhoid		86
Autopsy	0	
Blood culture	0	
Clinically positive	65	
Feces	0	
Widal reaction	21	
Confirmed as paratyphoid cases		0
Cases not confirmed		10

Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF NOVEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	4	0	1	1	3	0	3	0	0	0	12
Female	1	0	1	0	1	2	2	1	0	0	8
Dead:											
Male	0	0	0	2	0	2	0	1	0	0	5
Female	0	2	0	2	0	1	1	4	0	0	10
Total:											
Male	4	0	1	3	3	2	3	1	0	0	17
Female	1	2	1	2	1	3	3	5	0	0	18
Grand total	5	2	2	5	4	5	6	6	0	0	35

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	2	0	2	0	1	0	0	5
Female	0	1	0	3	1	2	0	3	0	0	10
Total	0	1	0	5	1	4	0	4	0	0	15

Total cases reported within the month in the City of Manila		43
Resident cases	38	
Non-resident cases	5	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		20
Deaths among resident cases	15	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Reported as:		
Acute dysentery	3	
Amoebic dysentery	9	
Bacillary dysentery	2	
Chronic dysentery	1	
Dysentery	27	
Erroneously reported as dysentery	1	
Total		43

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF NOVEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										
	No. 1		No. 2		No. 4		No. 5		No. 6		Total
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		3
Non-resident cases	1	
Foreign cases	0	
Resident cases	2	
Resident cases not confirmed as cholera (found negative)	2	
Resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among non-resident cases	0	
Deaths among foreign cases	0	
Deaths among resident cases (confirmed as cholera)	0	
Deaths among resident cases (not confirmed as cholera)	0	

Cholera carrier—1.

DIPHTHERIA REPORTED DURING THE MONTH OF NOVEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	2	0	1	0	3
Female	0	0	0	0	0	0	1	0	0	0	1
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	2	0	1	0	3
Female	0	0	0	0	0	0	1	0	0	0	1
Grand total	0	0	0	0	0	0	3	0	1	0	4

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	1	0	0	0	1
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	1

Total cases reported within the month in the City of Manila		14
Resident cases	12	
Non-resident cases	2	
Resident cases confirmed as diphtheria	4	
Resident cases not confirmed as diphtheria	8	
Total deaths reported within the month in the City of Manila		2
Deaths among resident cases (confirmed)	1	
Deaths among resident cases (not confirmed)	0	
Deaths among non-resident cases (confirmed)	1	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Males	Females	Males	Females
Malaria	3	3	0	2
Varioloid	0	0	0	0
Varicella	11	3	0	0
Smallpox	0	0	0	0
Measles	13	7	2	3
Whooping cough	0	0	0	0
Influenza	21	7	3	2
Bubonic plague	0	0	0	0
Beriberi	3	2	3	1
Beriberi, infantile	36	23	36	23
Pulmonary tuberculosis	124	89	76	53
Tuberculosis of all forms	7	7	7	7
Encephalitis lethargica	1	0	0	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Males	Females	Males	Females
Malaria	4	1	1	0
Varioloid	0	0	0	0
Varicella	2	0	0	0
Smallpox	0	0	0	0
Measles	0	1	0	0
Whooping cough	0	0	0	0
Influenza	3	0	1	0
Bubonic plague	0	0	0	0
Beriberi	0	0	0	0
Beriberi, infantile	8	1	8	1
Pulmonary tuberculosis	20	7	11	5
Tuberculosis of all forms	1	1	1	1
Encephalitis lethargica	0	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF NOVEMBER, 1923

Sera and vaccines	On hand Nov. 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	881,000	....	881,000	130,000	751,000
Anti-dysenteric serum (ampoules)	46	200	246	100	146
Anti-tetanic serum (units)	300,000	89,000	389,000	389,000	....
Cholera vaccine (c. c.)	7,310	15,000	22,310	13,020	9,290
Dried vaccine virus (units)	12,800	35,000	47,800	37,900	9;900
Fresh vaccine virus (units)	134,800	130,000	264,800	128,200	36,600
Gonococcus (ampoules)	....	230	230	230	....
Mixed cholera-typhoid vaccine (c. c.)	4,840	51,000	55,840	54,730	1,110
Normal horse serum (ampoules)	....	80	80	80	....
Typhoid vaccine (c. c.)	10,710	18,000	28,710	25,620	3,090

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 to 4 years		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	1,897	168	6	26	28	......	......	194	34
No. 2, Meisic	685	198	10	111	66	......	......	309	76
No. 4, Sampaloc	635	271	5	206	175	......	......	477	180
No. 5, Tondo	914	366	3	312	67	......	......	678	70
No. 6, Paco	313	96	2	64	5	......	......	160	7
Total	4,444	1,099	26	719	341	......	......	1,818	367

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF NOVEMBER, 1923

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA, FOR THE MONTH OF NOVEMBER, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	......	......	......	......	608	64
No. 2, Meisic	......	......	......	......	128	161
No. 4, Sampaloc	......	......	......	......	300	796
No. 5, Tondo	1,075	275	541	120	133	45
No. 6, Paco	......	......	......	......	168	562
Division of Communicable Diseases	......	......	......	......	380	255
Total	1,075	275	541	120	2,807	1,883

Districts	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	87	44	......	......	803
No. 2, Meisic	......	......	......	......	549	155	......	......	2,083
No. 4, Sampaloc	......	......	......	......	174	577	......	......	1,847
No. 5, Tondo	882	299	464	143	139	32	2,531	1,268	349
No. 6, Paco	......	......	......	......	134	620	......	......	1,484
Division of Communicable Diseases	......	......	......	......	245	260	......	......	1,140
Total	882	299	464	143	1,328	1,688	2,531	1,268	7,706

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see table of mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	841	826	394	94	....	....
No. 2, Meisic	1,276	152	1,103	144	....	....
No. 4, Sampaloc	636	832	472	730	....	....
No. 5, Tondo	83	40	....	....	....	....
No. 6, Paco	293	1,860	116	499	....	....
Division of Communicable Diseases	914	155	559	202	....	....
Total	4,043	3,365	2,644	1,669	....	....

Districts	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	512	159	209	54	....	....	1,838	751	....
No. 2, Meisic	648	135	600	137	....	....	2,211	1,984	....
No. 4, Sampaloc	501	712	296	657	....	....	2,681	2,155	....
No. 5, Tondo	112	66	....	....	....	....	301	....	....
No. 6, Paco	235	1,732	124	283	....	....	4,120	1,022	....
Division of Communicable Diseases	593	176	312	187	....	....	1,838	1,260	....
Total	2,601	2,980	1,541	1,318	....	....	12,989	7,172	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923 [1]

Provinces	Total vaccinations [2]	Inspection of persons vaccinated			
		Under 1 year [3]		1 year to 4 [3]	
		Positive	Negative	Positive	Negative
Abra	6,514	230	69	567	306
Agusan	5,292	124	30	231	79
Albay	133,369	3,129	1,094	6,256	2,226
Antique	11,128	1,352	422	1,767	834
Bataan	45,576	422	160	2,245	904
Batanes	1,696	46	21	115	48
Batangas	133,288	2,743	380	5,723	1,715
Bohol	36,449	1,217	455	2,913	1,005
Bukidnon	6,116	4	1	18	13
Bulacan	34,680	3,778	595	5,179	1,658
Cagayan	22,637	1,180	143	2,326	519
Camarines Norte	2,171	395	174	285	156
Camarines Sur	17,324	1,136	669	1,980	876
Capiz	14,508	488	154	728	200
Catanduanes	9,099	730	319	402	399
Cavite	26,380	1,677	251	2,490	704
Cebu	83,005	9,411	4,071	7,647	4,541
Cotabato	15,026	118	110	460	559
Culion Leper Colony	321	....	....	....	....
Davao	11,845	....	....	....	....
Ilocos Norte	23,171	2,082	655	3,549	2,364
Ilocos Sur	38,382	2,785	688	5,585	2,181
Iloilo	49,660	1,577	321	2,342	800
Isabela	9,001	215	172	882	718
Laguna	33,368	1,564	430	2,981	819
Lanao	10,921	127	43	440	236
La Union	16,186	560	254	701	671
Leyte	78,897	471	176	1,775	392
Marinduque	9,210	229	125	743	523
Masbate	6,940	55	29	379	190
Mindoro	11,519	501	264	1,265	688
Misamis	16,323	878	731	1,981	1,389
Mountain Province	19,835	117	90	153	160
Nueva Ecija	19,431	2,633	784	989	854
Nueva Vizcaya	6,239	259	39	436	78
Occidental Negros	36,539	2,508	797	3,188	1,933
Palawan	4,656	....	....	....	....
Pampanga	37,754	4,818	793	4,547	1,292
Pangasinan	81,305	7,398	1,768	7,627	2,532
Rizal	21,604	2,041	456	2,689	872
Romblon	6,546	....	....	....	....
Samar	57,419	470	163	960	476
Sorsogon	9,899	859	308	896	390
Sulu	8,516	391	143	1,409	604
Surigao	9,641	191	114	1,302	721
Tarlac	101,002	3,370	475	9,980	2,392
Tayabas	23,281	1,753	663	2,071	851
Zambales	23,464	451	144	625	291
Zamboanga	19,322	596	343	864	723
Total	1,406,455	67,079	20,086	101,691	41,882

[1] Compilation of reports received since January up to November.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR, 1923 [1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [3]		Total [2]	
	Positive	Negative	Positive	Negative
Abra	1,192	1,287	2,918	3,048
Agusan	1,065	791	1,420	900
Albay	17,498	7,985	55,014	29,938
Antique	1,378	1,497	5,198	8,512
Bataan	2,888	1,586	19,905	15,270
Batanes	509	271	874	582
Batangas	10,038	15,640	45,718	45,248
Bohol	6,440	3,348	21,153	10,156
Bukidnon	576	687	1,911	1,947
Bulacan	9,303	5,643	18,260	7,896
Cagayan	1,220	427	14,868	4,810
Camarines Norte	309	384	1,274	822
Camarines Sur	3,016	1,970	8,837	5,291
Capiz	2,159	1,218	8,499	8,839
Catanduanes	361	678	2,926	2,978
Cavite	3,145	2,130	16,052	8,747
Cebu	5,997	5,648	34,845	21,861
Cotabato	2,163	2,993	2,803	8,850
Culion Leper Colony	....	....	80	47
Davao	37	28	5,607	5,334
Ilocos Norte	4,918	7,809	10,546	10,887
Ilocos Sur	8,201	4,501	20,063	10,750
Iloilo	2,752	941	22,048	7,387
Isabela	980	1,618	2,997	3,603
Laguna	3,362	3,574	15,281	13,202
Lanao	806	635	4,424	1,987
La Union	946	2,818	4,748	7,037
Leyte	6,443	1,730	37,326	10,770
Marinduque	2,424	1,885	4,123	3,127
Masbate	1,012	1,448	1,446	1,662
Mindoro	1,662	1,392	4,796	3,578
Misamis	2,570	1,556	6,186	4,093
Mountain Province	347	364	7,824	4,877
Nueva Ecija	904	1,495	5,764	3,402
Nueva Vizcaya	569	199	4,790	1,188
Occidental Negros	3,355	2,223	19,246	10,676
Palawan	....	....	3,463	1,298
Pampanga	2,294	1,656	18,892	5,760
Pangasinan	10,919	5,594	48,401	19,514
Rizal	2,735	2,627	8,432	4,964
Romblon	....	....	1,921	1,515
Samar	1,328	1,181	19,254	12,105
Sorsogon	1,043	488	4,480	2,156
Sulu	1,646	1,059	4,664	2,921
Surigao	1,667	1,090	4,148	3,189
Tarlac	16,731	15,641	43,491	31,271
Tayabas	3,598	1,834	13,777	6,282
Zambales	1,086	1,250	8,258	7,142
Zamboanga	1,950	4,160	4,536	6,896
Total	155,837	125,154	623,422	379,165

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[1] Compilation of reports received since January up to November.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	4,769	2,775	119	20		
Batangas	1,189	1,008	25			
Bulacan	158	268	12	2		
Capiz	604	401	207	153		
Cebu	369	366	236	89		
Davao	170	124	83	113		
Isabela	201	128	61	26		
Laguna	551	544	298	161		
Misamis	34	81				
Oriental Negros	65	63	44	72		
Pampanga	138	112	62	40		
Pangasinan	160	87	60	17		
Rizal	56	7	22	3		
Sorsogon	771	334	354	141		
Tayabas	408	318	21	2		
Zambales	171	73	149	64		
Total	9,814	6,689	1,753	903		

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	4,334	2,292	178	88			14,170	405	
Batangas	1,789	982					4,968	25	
Bulacan	114	167	19	3			707	36	
Capiz	468	287	68	44			1,760	472	
Cebu	235	231	158	107			1,201	590	
Davao	55	70	34	63			419	293	
Isabela	170	156	32	17			655	136	
Laguna	446	551	255	318			2,092	1,032	
Misamis	30	29					174		
Oriental Negros	68	45	47	64			241	227	
Pampanga	57	95	26	38			402	165	
Pangasinan	103	80	54	12			430	143	
Rizal	43	8	4	1			114	30	
Sorsogon	565	216	290	78			1,886	863	
Tayabas	319	282	8	13			1,327	44	
Zambales	134	69	115	62			447	390	
Total	8,930	5,560	1,288	908			30,933	4,852	

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[1] Compilation of reports received up to November.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	75	135	37	28	70	111
Albay	355	23	237	8	13	3
Antique	139	110	87	118	17	6
Batangas	96	18	55	9	6	2
Bulacan	668	335	439	117	267	99
Camarines Sur	222	68	35	21	8	3
Capiz	30	8	11	2	5	2
Catanduanes	178	44	123	31	....	....
Cavite	231	73	65	44	50	47
Cebu	72	52	38	....	....	....
Ilocos Sur	1,469	329	877	175	690	364
Isabela	343	90	42	31	....	....
Laguna	1,468	418	660	184	370	154
Nueva Ecija	8	....	....	....	....	....
Occidental Negros	23	4	19	2	....	....
Oriental Negros	57	13	49	....	11	....
Pampanga	2,089	1,427	1,592	855	595	422
Pangasinan	1,536	1,194	1,116	828	894	691
Rizal	144	144	346	65	141	41
Tayabas	31	31	43	....	....	....
Zambales	1,182	1,132	1,106	889	961	812
Total	10,856	5,668	6,977	3,467	4,098	2,757

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	59	87	34	54	48	112	356	153	341
Albay	218	26	178	22	19	8	622	445	48
Antique	61	46	74	37	13	5	356	316	41
Batangas	94	34	36	7	3	2	242	107	13
Bulacan	584	326	374	178	286	128	1,933	1,168	780
Camarines Sur	152	91	43	14	7	4	533	113	22
Capiz	3	7	2	4	1	....	48	19	8
Catanduanes	67	47	47	19	....	....	336	220	....
Cavite	255	75	54	48	34	46	634	211	177
Cebu	57	35	32	....	....	....	216	70	....
Ilocos Sur	983	376	808	186	486	244	3,157	2,046	1,784
Isabela	82	66	25	18	....	....	572	116	....
Laguna	1,072	399	683	212	457	165	3,357	1,739	1,146
Nueva Ecija	3	....	5	....	....	....	11	5	....
Occidental Negros	7	3	6	2	....	....	37	29	....
Oriental Negros	32	13	22	7	15	7	115	78	33
Pampanga	2,087	1,367	1,465	887	523	476	6,970	4,799	2,016
Pangasinan	1,180	1,097	915	769	784	640	5,007	3,628	3,009
Rizal	419	160	267	76	129	31	1,239	754	342
Tayabas	78	28	25	1	....	....	245	69	....
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	8,631	5,295	6,199	3,357	3,813	2,629	30,450	20,000	18,297

[1] Compilation of reports received up to November.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	244	155	171	287	....	....
Antique	658	548	421	317	32	25
Bataan	471	134	269	63	....	....
Batanes	68	8	11	2	....	....
Batangas	641	286	334	107	....	....
Bohol	195	25	215	6	....	....
Bulacan	96	5	53	5	14	2
Cagayan	575	548	221	32	....	....
Camarines Norte	417	50	159	20	....	....
Camarines Sur	1,254	811	436	101	....	....
Capiz	61	1	4	....	....	....
Cavite	830	391	498	87	....	....
Cebu	796	257	134	189	34	4
Cotabato	189	104	....	....	....	....
Davao	344	18	248	12	....	....
Ilocos Norte	1,612	1,184	886	329	....	....
Ilocos Sur	1,745	352	449	146	131	73
Iloilo	1,457	1,101	1,634	730	....	....
Isabela	261	49	64	7	10	....
Laguna	126	53	60	54	....	....
Lanao	40	15	5	8	....	....
La Union	987	809	504	168	....	....
Leyte	211	15	96	22	....	....
Marinduque	588	322	374	297	....	....
Masbate	652	332	389	98	....	....
Mindoro	250	104	89	21	22	....
Misamis	526	411	271	213	....	11
Nueva Ecija	1,071	762	981	733	158	97
Nueva Vizcaya	331	230	465	208	15	35
Occidental Negros	29	20	21	18	....	....
Oriental Negros	830	1,224	159	207	....	....
Pampanga	861	568	353	191	....	....
Pangasinan	416	213	320	180	....	....
Rizal	1,677	914	1,033	706	....	....
Sulu	113	254	18	85	....	....
Surigao	32	1	99	1	....	....
Tarlac	1,262	794	390	314	....	....
Tayabas	1,468	447	431	66	....	....
Zamboanga	44	8	....	....	....	....
Total	23,428	13,023	12,265	6,030	416	247

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[1] Compilation of reports received up to November.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED TYPHOID AND CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]—Continued

Provinces	Number of persons vaccinated						Total injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	121	109	111	256	....	....	629	825	....
Antique	507	514	258	281	10	34	2,227	1,277	101
Bataan	342	102	189	49	....	....	1,019	570	....
Batanes	55	5	16	3	....	....	186	32	....
Batangas	614	302	350	152	....	....	1,870	948	....
Bohol	82	41	97	9	....	....	343	327	....
Bulacan	23	3	14	3	7	....	127	75	28
Cagayan	276	390	191	117	....	....	1,789	561	....
Camarines Norte	244	31	162	32	....	....	742	373	....
Camarines Sur	806	235	280	105	....	....	2,606	922	....
Capiz	18	4	....	....	....	....	84	4	....
Cavite	394	165	302	78	....	....	1,780	965	....
Cebu	388	199	91	143	18	....	1,640	557	56
Cotabato	133	80	....	....	....	....	506	....	....
Davao	22	13	9	7	....	....	397	276	....
Ilocos Norte	1,347	1,133	408	384	....	....	5,276	2,007	....
Ilocos Sur	1,109	300	481	168	260	91	3,506	1,244	555
Iloilo	1,083	981	1,024	639	....	....	4,622	4,027	....
Isabela	224	81	30	19	10	2	615	120	22
Laguna	56	13	44	58	....	....	248	216	....
Lanao	3	1	3	....	....	....	59	16	....
La Union	948	608	409	190	....	....	3,352	1,271	....
Leyte	124	17	46	13	....	....	367	177	....
Marinduque	424	302	351	449	....	....	1,636	1,471	....
Masbate	274	302	148	95	....	....	1,560	730	....
Mindoro	195	107	68	46	2	....	656	224	24
Misamis	350	305	131	109	1	3	1,592	724	15
Nueva Ecija	838	665	698	585	188	184	3,336	2,988	628
Nueva Vizcaya	263	228	271	215	3	33	1,052	1,159	86
Occidental Negros	26	22	23	22	....	....	97	84	....
Oriental Negros	539	712	156	198	....	....	3,305	720	....
Pampanga	973	578	505	236	....	....	2,980	1,285	....
Pangasinan	414	261	338	216	....	....	1,304	1,054	....
Rizal	1,457	691	976	548	....	....	4,739	3,263	....
Sulu	87	170	29	75	....	....	624	207	....
Surigao	28	....	53	....	....	....	61	153	....
Tarlac	890	725	332	282	....	....	3,671	1,318	....
Tayabas	1,025	375	294	48	....	....	3,315	839	....
Zamboanga	18	7	....	....	....	....	77	....	....
Total	16,717	10,777	8,879	5,830	500	347	63,945	33,004	1,510

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[1] Compilation of reports received up to November.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF NOVEMBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH

CHOLERA REPORTED FROM THE PROVINCES, RECEIVED DURING THE MONTH OF NOVEMBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF NOVEMBER, 1923

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending, October, 1923:						
Minor	32	14	21	27	47	141
Sewer	9	55	15	7	5	91
Vacating		10	5	2	2	19
Filling	5	2	14	6	3	30
Total	46	81	55	42	57	281
Orders issued during the month:						
Minor	7	1	11	1	1	21
Sewer	1		1			2
Vacating						
Filling						
Total	8	1	12	1	1	23
Grand total	54	82	67	43	58	304
Orders completed during the month:						
Minor	4	5	3		7	19
Sewer		1	1			2
Vacating						
Filling						
Total	4	6	4		7	21
Orders cancelled during the month:						
Minor			1			
Sewer						
Vacating						
Filling						
Total			1			1
Orders pending, during the month:						
Minor	35	10	28	28	41	142
Sewer	10	54	15	7	5	91
Vacating		10	5	2	2	19
Filling	5	2	14	6	3	30
Total	50	76	62	43	51	282
Strong material plans approved:						
New buildings including additions and alterations	12	7	6	17	5	47
Permits for minor building constructions:						
Approved	6	7	16	30	8	67
Disapproved	4	1	6	9	2	22
New buildings completed	16	12	10	25	6	69
Light and mixed material construction:						
Permits approved	1		15	35	13	64
Permits disapproved	2		5	8	4	19
Total number of building projects passed upon	41	27	58	124	38	288
Prosecutions:						
Convictions						
Dismissals						
Amount of fines						
Plumbing permits issued	21	19	15	36	6	97
Plumbing projects completed	22	15	16	8	3	64
Premises connected to the sanitary sewer to October, 1923	1,687	2,865	1,078	574	422	6,626
Premises connected during the month	13	5	4		1	23
Total	1,700	2,870	1,082	574	423	6,619

Intramuros includes Ermita and Malate; Meisic includes Santa Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Santa Mesa; Paco includes Pandacan and Santa Ana.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. III DECEMBER, 1923 No. 12

> **I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.**

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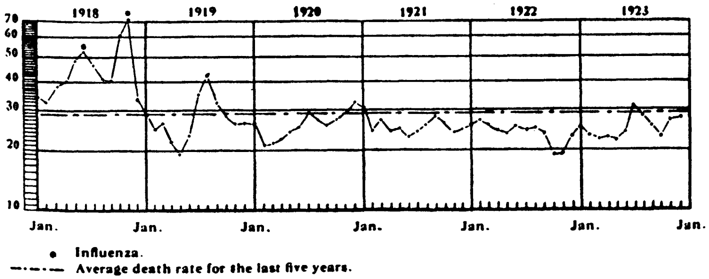

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. III DECEMBER, 1923 No. 12

BERI-BERI FROM A HISTORICO-BIBLIOGRAPHICAL POINT OF VIEW

[Continued from November Number, 1923, Vol. III, No. 11]

By MANUEL ARTIGAS CUERVA

(*Member of the Royal Academy of History*)

POPULARIZING THE KNOWLEDGE OF THIS DISEASE

We note that in 1893 Brualt, Bently, our distinguished Dr. Trinidad H. Pardo de Tavera, and Mr. Alfonso Maseras were showing the marked interest they felt toward this illnes. (*See Hygiene et prophylaxie des maladies dans les pays chauds.* Paris, 1893; *Beriberi,* London, 1893; the article *Remedio indio contra el beri-beri,* published in *La Correspondencia Médica de Filipinas* for the month of December, 1893; *Etiología del Beriberi,* already referred to previously.)

Later, in 1894, Mr. Santos Rubiano translated the work of Fernando Roux and appended the opinions of Drs. José Antelo, Casto Lopez Brea, Pedro Saura, Benito Francia, Antonio Trelles, José Lopez Irastorza, A. A. Maseras, José Vera, Gumersiendo del Valle, and Juan Miciano. The following year Enrique Mateo Barcones tells us that the nature of Beriberi had already been difinitely established, as a microbic infection endemic in the Philippines; and Drs. E. Dominguez and Alfonso Maseras published two interesting treatises. We should not forget that in that year, both medical literature abroad and medical literature at home had already scraped the surface of this theme; and Dr. Meseras, in touching on this point, must have based his statements on the data gathered by his students at the clinic and on the personal observations made by himself. He agrees with those authorities who believe in numbness as a symptom, as is shown by the following words: "The dilatation of the heart is a symptom among persons who in this clime are suffering from general myositis of an infectious nature, which of itself betrays the presence of beriberi." In 1896 besides, we are to reckon with the works of Drs. T. H. Pardo de Tavera and Manuel Santamaria. (See Fernando Roux—*Enfermedades de los países cálidos—Beriberi—Fiebre fluvial.* Manila; Enrique Mateo Barcones—*Estudios para una hosología filipina,* Madrid, 1895, pp. 241–259; E. Dominguez—*Tratamiento del Beri-beri,* in *La Correspondencia Médica de Filipinas,* June, 1895; Alfonso Maseras—*Anatomía patológica del Beri-beri* in *Crónica de Ciencias Médicas,* Manila, December, 1895, pp. 165–176; T. H. Pardo de Tavera—*El beri-beri—Su etimología,* in *La Correspondencia Médica de Filipinas,* May, 1896, p. 71; Manuel Santamaria—*La disnea en el beri-beri,* in *La Correspondencia Médica de Filipinas,* June, 1896, p. 83.)

In 1899, we have the works of Legrain and Treille, and the following year that of Grall, to be followed in 1901 by the treatises of Le Dantu and of H. Brun who characterized beriberi as a disease that was probably infectious, endemic in certain tropical regions, of a rapid and violent course, and of variable symptoms. (See *Etudes de Medecine Coloniale,* Paris, 1899; *Principes d'Hygiene Coloniale,* Paris, 1899; *Pathologia exotique,* Paris, *1900; Maladies des pays chauds—maladies limateriques et infectieuses,* Paris, 1901; and *Precis de pathologie exotique,* Paris, 1901.)

Later in the same year, W. J. J. Arnold, in his *The Etiology of Beriberi* tells us of the Boer prisoners on St. Helena who, he says, might have contracted the illness from no rice diet; and in this theory he alludes to McGilchrist who in turn wrote from Bengal of an epidemic which broke out aboard a vessel whose crew had been subsisting on a balanced ration, so that the disease must have been of an infectious nature. Later came the studies of Lemanski, Fisch, Reynand, Audin, Hubner, and Dangerfield. (See *Hygiene du colons,* Paris, 1902; *Tropische Krandheiten,* Berlin, 1903; *Pathologie intertropicale,* Paris, 1904; *Enstechungund heilung epidemischer krandheiten, Berlin,* 1904; and *Le Beriberi,* Paris, 1905.)

In that same year, 1902, still another work appeared over the signature of Baelz, who also upheld the theory of the infectiousness of beriberi, with Kohlstock, Wurtz and Thiroux, Mense, Netter and Mosny, and Aliot and Carac, treading the same path. (See *Mense's handbuch der tropenkrankheiten,* Berlin, 1904; *Tageber for die tropen,* Berlin, 1905; *Dyagnostic semeiology des maladies tropicales,* Paris, 1905; *Handbuch der tropenkrankheiten,* Berlin, 1906; *Maladies exotiques,* Paris, 1906; and *Hygiene Coloniale,* Paris, 1907.)

We have likewise the name of Monson who favors the same theory of the infectious nature of this malady, a hypothesis on which now a few observers have agreed as our review of the history of this illness has so far shown. Other names are those of Hey, Jeanselme, Miser, Manson, and Sheube. (See *Tropical Diseases,* London, 1907—pp. 367 and 619 of Vol. II, Part 2 of *Albut's System of Medicine,* 1907; *Le Beriberi,* Paris, 1907; *La prophilax des maladies exotiques,* Paris, 1908; and *Die Krankheiten der warmen lander,* Berlin, 1908.)

Nor should we forget Dante who, like Drs. Fraser and Stanton, also held on to the view that beriberi is infectious. The last two investigators, however, after performing several experiments, came to believe that this disease is intimately related to the consumption of white rice. (See *Le Beriberi,* Paris, 1907, as copied on pp. 63, 118, and 122 of the *Bull. Soc. Path. exotique,* 1910; and *Studies from the Institute for Medical Research* published in Vol. I., p. 451 of the *Lancet,* 1909.)

THE CAMPAIGN TO PRECLUDE THE EVIL

The year 1910 saw a certain eagerness in the country to study the diseases which were most instrumental in giving it a high mortality rate, in order that the necessary precautionary and preventive measures might be devised and thereby preclude what was so often recurring. During that period the medical profession knuckled down itself to what was possible of accomplishment by plunging in dead earnest into a campaign which, to all intents and purposes, was beneficial to the community; and just as a decided beginning was made in heading off the advance already threatened by tuberculosis as well as by the menace to infant health, so beriberi was also faced. In the *Revista Filipina de Medicina y Farmacia* of that year, we see the beginning of the publication of interesting works by Breaudat, Jeanselme, Breaudat and Desnier, Comby, and W. J. J. Arnold. (See *Origen alimenticio y tratamiento del beriberi,* October, 1910, p. 237; *La Orina y la Sangre de los Beribíricos,* February, 1911, p. 81; *Le Beriberi,* Paris, 1907, and *Bull. Soc. Path. exotique,* 1910; *Escorbuto y beriberi en Akioucht, Mauristania,* May, 1911, p. 277; and *La Atiología del beriberi,* May 1914, p. 266.)

In addition, at the local conventions of physicians and pharmacists, notable treatises were read by Drs. Luis Guerrero, Crisostomo, Benito Valdes, and Fernando Calderon. (See *La Etiología del beriberi,* 1912; *Terapéutical del beriberi por los compuestos colestéricos,* 1914; *El beriberi en las embarazadas,* 1914; and *Algunas Notas sobre la geografía médica de Filipinas,* 1914.)

Worthy of mention also were the works of M. Adachi, C. Inagaki and Horuc, C. Inagaki and M. Nemori, W. Chamberlain and Vedder, Weston and P. Chamberlain, Fuyiyani, Shiga and Kusama, Toyama, Tsuzuki, Fernando Calderon, and Luis Guerrero. See *The Action of the so-called "Beriberi Poison" on the Heart, in The Sei-I-kwai Med. Jour.,* Vol. XXIX, No. 6, 1910, p. 543; *The First Report on the Investigation of the Cause of Beriberi,* in *The Sei-I-kwai Med. Jour.,* Vol. XXIX, No. 7, 1910, p. 531; *The Relation between Nursling's Beriberi and Mother's Milk,* in *The Sei-I- Kwai Med. Jour.,* Vol. XXIX, No. 6, p. 529; *A Contribution to the Etiology of Beriberi,* in *The Philippine Journal of Science,* June and November, 1911, p. 395; *Supresión del Beriberi entre los Scouts Filipinos por medio de sencillos cambios en su alimentación,* an address before the Philippine Medical Association, February 25, 1911; *Mitteilungen der beriberi studien komission,* Tokio, 1911; ditto; ditto; ditto; *Algunas Notas sobre la geografía médica de Filipinas,* an address before the Sociedad Histórico-Geográfica, November, 1914; and *La Etiología del beriberi,* in *Memorias y Comunicaciones de la Primera Asamblea General de Médicos y Farmacéuticos,* Manila, 1912, p. 74.)

WHAT CAUSES THIS ILLNESS?

Many and invaluable have been the theories so far advanced in order to explain the *causa causans* of this malady. Some theories defend the belief of the cause lurking in a rice diet; and among those observers who believe thus, we have E. Marchoux who agrees with Eijkmann that rice and other filth-producing substances probably undergo a certain change in the intestine while in contact with a special type of micro-organism which is transmissible and which has the power to form toxins from starch. These toxins in turn, after reabsorption in the system, cause the auto-intoxication of the nervous system. It is believed, moreover, that these minute organisms do not live in the rice grains but do develop in the intestines under certain favorable conditions, and that therefore the malady is manifestly contagious. (See *Leber die durch die milch an Kakke Leindenden frauenvanersachte Krankheiten der Saculinge,* 1898.)

Mention may be made, besides, of the study of Mr. Nepoen of Merseilles, member of the French Scientific Association, after he had observed the anatomic features of a beriberi case furnished him by Dr. Clonard. On the anatomic side of the disease, he says, beriberi is an infectious illness, as is shown by the granular degeneration of the hepatic tissues, of the kidney cells, the muscle fibers of the heart, and the (myelin) of certain nerves. The poison works its way in the system by producing a great mass of new cells in the connecting tissues of the principal organs, such as the liver and the spinal medulla particularly. The poison produces also a "Kario-quinesia leucocitica". From the point of view of the pathogeny of the disease, beriberi appears to be caused by the *beribericus* bacillus whose actual existence is every day becoming a settled idea. Inoculation has yielded such positive results as to countenance the inclusion of this malady in the class of infectious diseases. This illness, then, is a general disorder, dropsical or spinal in nature, according as the liver, the heart, or the spinal medulla is more or less affected. Other observers say that up to this time, not a single proof has been brought forth to establish securely the belief that beriberi is caused by the food taken, while many other views now adhere to the belief that this illness is an infectious disease brought about by toxins. (See *Abeja Médica,* Havana, 1894; and *Aproрósito de la resolución sobre el beriberi adoptada por el Congreso de Medicina tropical de Manila,* published in Vol. I, No. 6 of the *Bull. de la Soc. Med. Chir. de L'Indochine,* 1910, and in *Revista Filipina de Medicina y Farmacia,* January, 1911, pp. 25–28.)

To this diversity of views, undoubtedly, must be due the conclusion reached by Emil Abdarhalden and Arno Ed. Lampe, after various experiments, that there is as yet no irrefutable argument of general worth to establish that substances hitherto unknown are necessary to life; so that there is need of opening new studies for clearing away the doubts concerning the value of "orizanina"—according to Swzuki and his collaborators—and vitamines—according to Funk. (See *El beriberi y las vitaminas,* in *Revista Filipina de Medicina y Farmacia,* March, 1914.)

We have also before us the statements of C. E. Salom who, in connection with the beriberi epidemics which have been afflicting Bolivar, Venezuela, counsels in all cases a change of climate; moderate exercise as walking; food regimen; tonics for the nerves, the heart, and the respiratory organs; and the use of diuretics in cases of oedema. (See *Beriberi,* in the *Gaceta Médica de Caracas,* 1920.)

It is worth taking into consideration the study made by Carl Lovelace who affirms that of the 30,430 patients admitted in the Hospital or the Madeira-Memore Railroad from January 1, 1908, to January 1, 1912, nine hundred and sixty-three cases were diagnosed as beriberi, so that the conclusion was made that this malady bears no close relationship whatever to polished or unpolished rice as an article of diet. On the other hand, it is believed that the cause is the absence of proteins in the food taken. (See *La etiología del beriberi,* in the *Journ. of the Am. Med. As.,* December 14, 1912, and in *Revista Filipina de Medicina y Farmacia,* February, 1913, pp. 88–89.)

Besides the foregoing treatises there are still other studies which merit attention because of the interest evinced by their authors. Among these studies should be mentioned those of Scheube, who considers beriberi an infectious illness, and Dr. R. P. Strong, who experimented on 29 prisoners divided into four groups. For one group, the regimen was white rice, bran extract, special diet; for another, white rice, special diet; for a third, red rice, special diet; and for the fourth, white rice, special diet. His conclusion is: that it is evident that among such persons beriberi developed solely as a result of the food regime observed, and that the growth of beriberi in a given system obeys the absence of an element which is necessary to the proper physiological development of the organism. Such a substance is present in red rice and bran extract, as it is also present on a reduced scale in the alcoholic extract of bran itself. (See *Die Krankheiten der warmen laender,* Jena, 1913, p. 265; and *La etiología del beriberi,* in *The Phil. Journ. of Science,* August, 1912, and *Revista Filipina de Medicina y Farmacia,* February, 1913, p. 89.)

R. B. Gibson and Isabelo Concepcion affirm by way of conclusion that it seems to them "that the substitution of brown rice for white cannot completely protect all persons against beriberi, nor do they mean to say that such a substitution has not practically eliminated beriberi, or that they disparage the great therapeutic value of bran;" but they appeared to be settled in the conviction that "the addition of other food substances to the brown rice diet is essential in satisfying the normal food needs of the organism." (See *Degeneración nerviosa en las aves alimentadas con palay,* in *Revista Filipina de Medicina y Farmacia,* September, 1914, pp. 511–515.)

NO OPPOSITION TO PLAN OF INVESTIGATION

As is to be deduced from what has been so far sketched, the efforts of our physicians parallel those of other entities which have been demonstrating great enthusiasm for everything that can raise the standard of living of the land, and no snag has yet been hit in the plan to carry out the most scrutinizing investigations in the direction of the coveted goal.

Thus far, we have seen how in the case of beriberi all efforts were bent on formulating a definite point or view and arriving at a definite conclusion; but inasmuch as not all doubts have as yet been dispelled to the satisfaction of all, the scalpel of scientific curiosity continues its probe.

THE INVESTIGATION COMMITTEE

Not so very long ago, in the middle of September, 1922, the Beriberi Investigation Committee was formed at the Philippine General Hospital, through the initiative of the Chief of the Department of Clinical Medicine of the College of Medicine and Surgery of our national University, Dr. Jose Albert. The Committee consisted of members of the Investigation Committee from the Medical Corps of the United States Army and a number of representatives from the College of Medicine and Surgery of the above mentioned University. The purpose was "to study closely, from all points of view, this problem of beriberi, inasmuch as it is a matter which affects directly all the peoples of the Far East and of the Philippines particularly." (See *Beriberi Investigation Committee,* in the *Journal of the Philippne Islands' Medical Association,* September and October, 1922, Vol. II, No. 5. The Army members appointed to form this Committee were Drs. Callender, Garrison, Fleming, and Bitterman; and those from the University were Drs. Bautista, Roxas, Guerrero, Smith, Sison, Fernandez, Concepcion, Domingo, and Albert.)

INFANTILE BERIBERI IS DISCOVERED

It had been understood since the beginning that beriberi was exclusively an adult illness, for such was the theory established by such eminent observers as Baelz, Pekelharing, Scheube, and Wingler; but the Japanese physician Dr. Hirota, who in April, 1891, had made a minute study of the matter, came to the conclusion that the malady was transmissible also to nursing children; and such an announcement he made before the Tokio Medical Society in that month. (See *Ueber die durch die milch an Kakke Leidenden frauenvanersachte Krankheiten der Saculinge,* 1898.)

Such a variety of beriberi, however, must have remained the *arcanum* of a few observers, for fifteen years elapsed and in that span of years, as the eminent Dr. Albert has put it, "beriberi was a sphinx to medical men, who noticed such a malady in their practice but could not ascertain its name or its nature."

INVESTIGATING SOCIETIES SPRING UP

Meanwhile, the Philippines, already concerned gravely with the unsettled conditions at that time obtaining in the country, hardly had the time or the energy to ramble into the realms of science, particularly several years later on account of the sudden turn of affairs and the breaking out of the revolution. But as soon as the clouds of war and of ominous uncertainty had drifted away and civil government had been resorted, the plethora of enthusiasm for educational progress which had seized the country gave birth to such scientific institutions as the Bureau of Science, the Philippine Islands' Medical Association, the Colegio Medico-Farmaceutico, the Philippine Medical School which eventually evolved into the College of Medicine and Surgery, and the Army Board of Tropical Medicine besides,—factors which were most fitted in developing research in the diseases long working havoc among our people.

The professional press on its part contributed no little help to the popularization of all this knowledge, and among such publications giving out inestimable studies we find the *Bulletin* of the Manila Medical Society, the *Philippine Journal of Science*, the *Revista Filipina de Medicina y Farmacia,* and the *Journal of the Philippine Islands' Medical Association.* Add to these publications the work performed at each convention of physicians and pharmacists, and we shall see the tremendous impetus given to the great task of studying these diseases.

THE FIRST FILIPINO TO NOTICE INFANTILE BERIBERI

Keeping pace with the opening of scientific institutions, our professional men, desirous of evincing their worth in the world, undertook investigations, performed experiments in their laboratories, and kept themselves thoroughly abreast of every rumored and established advance in science. At that time, the encouragement given to every branch of human learning was observable everywhere; and to such auspicious signs is due the invaluable study made by Dr. Manuel S. Guerrero who wrote thus, in the *Revista Filipina de Medicina y Farmacia* for August, 1910: "This disease (referring to infantile beriberi), which constitutes a factor of the first order in the excessive infant mortality in these Islands, was completely unknown in the annals of Tropical Pathology, and the practitioners here following the medical profession mistook the illness for infantile eclampsia, convulsions, or epilepsy, or even nervous exhaustion as caused by gastralgia or colic." In a paper read on October 10, 1905, before the Colegio Médico-Farmacéutico de Filipinas Dr. M. S. Guerrero, basing his conclusions on 103 observations made by him in collaboration with Messrs. Luis Guerrero and J. Quintos, called the attention of Manila physicians to the changes attendant upon the *taon* in its different clinical manifestations by means of a detailed and careful study he had made on the etiology, symptoms, clinical forms, diagnosis, and pathogeny of infantile beriberi. By right, then, belongs to M. S. Guerrero the indisputable credit for having been the first man who made known to our land the true nature of such a terrible affliction of our nursing babies.

THE ANTIQUITY OF THE WORK "TAON"

It is unquestionable that such a paper of Dr. M. S. Guerrero marked the coming of no insignificant beneficial results to suffering humanity which now was seeing the solution of the hitherto unsuspected intoxication of infants.

In sooth, even as far back as 1754 at least, when the Jesuits Juan de Noceda and Pedro de San Lucar published "the book of gold" (in the words of the censor, Fr. Blas de Plasencia), the word *taon* was known; but as Dr. Jose Albert observes, this word did not exactly correspond to infantile beriberi in all instances, and that while all beriberi is also *taon*, yet not all beriberi cases are cases of *taon.* The *taon* of the masses, he adds, implies a wider range of symptoms, and is applied to all highly acute *terminal* symptoms supervening in a child in a sudden or unexpected manner, as cyanosis, pallor, convulsions, fever, and kindred other symptoms. (See *Vocabulario de la lengua tagala,* Manila, 1754; *Estudios etiológicos y clínicos del beriberi infantil,* Manila, 1914.)

BETTER EXPLANATIONS OF "TAON" AND "ECLAMPSIA"

With all the foregoing efforts at explanation, the name *taon* still remained unexplained, even after the studies made by Dr. Manuel Xerez Burgos, who regards it as synonymous with *eclampsia,* as was also the case with the work performed by Dr. Manuel Gomez who believed that *taon* is only a form of nervous exhaustion. It was, therefore, evident that with such a dearth of means the high mortality rate could not be offset successfully; and it is in this connection that we have come to regard the aforementioned paper of Dr. Guerrero as a fresh seed on an old plot,—a creditable undertaking for the Filipino physician and a live encouragement to the professional class. (See *La eclampsia infantil en Filipinas y medios para reducir la excesiva mortalidad de los niños,* Manila, 1889; *Taon,* in the *Crónica de ciencias médicas de Filipinas,* June, 1897.)

It was Dr. M. S. Guerrero, as someone rightly said, who, anxious to build a wall against the alarming and, to us, shameful infant mortality, devoted the best and the major portion of his time to the unremunerative task of arduously studying and himself first discovering the principal cause of the excessive number of nursing children that perished during their first year: *infantile beriberi.* "To him is due the discovery that what was formerly the dim and unrecognizable *taon* is now a known nosological specimen, seeing that it was he, through his investigations, who classified it thus and described, in the masterly manner he so well knew, its etiology and pathologic anatomy, its diagnosis and clinical forms, its prognosis and treatment, including the exact rules to be observed in order to preclude the increase of its victims."

The thesis we defended hitherto, said Dr. Guerrero, was not convincing to the majority of our colleagues; but a year later, on November 19, 1905, at the program given by the Philippine Feminist Association at the Liceo de Manila, Dr. Fernando Calderon referred in the course of his speech to the high mortality rate that was noted among the children of both sexes in the capital of the Islands and suggested the need for the Municipal Board of Manila and the Health Service of furnishing clean and cheap dwellings to the poor, with the hope of seeing the diminution of the great number of children who yearly succumbed to *taon.* (See *Causas de la mortalidad infantil en Manila y sus remedios,* in *El Renacimiento,* November 20 and 24, 1905.)

Three years later, Dr. Guerrero adds, "Dr. José Albert published a study of infantile beriberi, followed by another on the pathologic anatomy of the corpse, so that thereby our former assertions so unbelievingly listened to art last found complete corroboration." (See *A case of infantile beriberi with autopsy report,* in the *Philippine Journal of Science,* September 4, 1908.)

In spite of such a definite solution of the hitherto perplexing problem of the disease, the same Dr. Guerrero, joining hands with his collegue Dr. Joaquin Quintos, produces another work wherein he not only explains the synonyms of the name of the illness, but also sketches briefly the history of this affliction of society with respect to its hitherto obscure origin and development, its etiology, pathologic anatomy, its course, diagnosis, pathogeny, and treatment. (See *El beriberi en los niños de pecho—Observaciones anátomo-clínicas,* Manila, 1910.)

With such a splendid beginning, other studies were conducted so as to ascertain to the minutest degree the nature of the sickness. Here we cannot fail to record that the weighty contributions of Dr. Guerrero had brought about such lasting benefits that in 1908 the medical men of the Philippines congratulated themselves because of the unique opportunity of knowing for the first time the autopsy of a case of infantil beriberi. But such a great gain was further augmented in such a way that today the College of Medicine and Surgery is the proud possessor of an important collection of necroscopies of infantile beriberi.

If a recapitulation of this productive assiduity of our physicians were to be made, we could not help but admit that such efforts have redounded to the honor and prestige of the Archipelago, inasmuch as our excursions into the realm of the intellectual are seldom taken cognizance of by the majority of the peoples that make up the family of nations. It is on the strength of such achievements as these that we should see the imperative need of "talking shop" about our own accomplishments so as to give the lie to the quibbling and shilly-shallying propaganda of a colonizationist policy. Can the pages of any foreign history surpass in brillancy the pages which record in clear-cut characters the evidences of the capacity of our diverse professional men, who saw the light of day on this soil, who learned and knew how to put to good advantage the latest advances in scientific theory and practice without ever leaving these shores, and whose accomplishments are a worthy paragon by the side of the works of professional men in other civilized countries?

To take the case of beriberi as a concrete instance, every effort we have put forth to solve the riddle evinces our patent interest in a worthy cause, and may even place us above the level of other peoples. The spectacle of our children dwindling away by the thousands was of public knowledge and of regrettable occurrence; and our inherent love for the flesh of our flesh and our fundamental love for humanity in general made us all knuckle down to the grim task so as to end once for all a holocaust we could not behold without anguish. The creditable accomplishments so excellently performed by Dr. Manuel Guerrero blazed new trails through the jungles of uncertainty and surmise, and Dr. Jose Albert proposed the investigation of mortality from infantile beri-beri in order to determine more securely its causes and recommend the proper remedies. (See *Influencia de la práctica obstétrica en la mortalidad infantil*, by Jose Albert, in the *Bull. of the Med. Soc.*, June 1910, p. 145.) There was urgent need of proceeding according to this plan on account of the fact that such a mortality rate, compared with the birth rate in Manila, was the most appaling in the whole world. One difference of condition which should be noted is that the majority of children in Europe and North America are bottle-fed, while in the Philippines such a majority is breast-fed. (See *La mortalidad infantil de Filipinas comparada con la mortalidad infantil de Europa y los Estados Unidos*, by Jose Albert, in the *Bull. of the Med. Soc.*, November, 1910.)

As we have previously said, the number of deaths among children was astounding; and by way of proof we give the figures for the period from 1905 to 1909, when 43,615 children died, whereof 19,606 were from one day to one year old, and of this number, 1,461 died of beriberi. In the total of deaths, still-births are not included. Dr. Manuel Guerrero cites these figures by way of graphic evidence, and then continues thus: "We shall, then, conclude by saying that the 41.97 per cent of cases with convulsions as the principal cause of infant mortality in Manila aside from the fact that such cases are also related to intestinal disorders and the derangement of other organs are, for the most part, beriberi cases among nursing children that may not have been properly diagnosed or may have been mistaken for other nosological manifestations." It was this same physician who believed that the science of puericulture is an important and indispensable subject which should be placed side by side with the other fundamental subjects in the curriculum. While awaiting, he said, the coming of a prophylactic treatment for infantile beriberi, in accordance with the discoveries of science and the traditions of professional practice, poor mothers should be supplied the proper quality of cheap milk for the sustenance of the children through the *Gota de Leche* which are also puericulture schools.

Dr. Guerrero was confirmed in his views by his colleague, Dr. Fernando Calderon, who by means of lantern slides demonstrated the cases of numerous Filipino children before and after entering the *Gota de Leche;* and thereby he showed the great improvement and cure effected in such children by the substitution of breast-feeding with artificial nursing wherein cow's milk was scientifically diluted and pasteurized. (See *Beriberi infantil tratado en la Institución "La Gota de Leche."* An address delivered before the Philippine Islands' Medical Association, February 22, 1911, and published in the *Revista Filipina de Medicina y Farmacia* of the same month.)

Dr. Proceso Gabriel believes that if the disease condition of the mother is improved or cured, the toxic condition of her milk will also diminish or disappear altogether; so that the *taon* affecting the child and resulting from this auto-intoxication of the mother will likewise cease. In consequence, the popular traditional treatment of freeing the baby from breast-feeding is abandoned and the suggestion of Dr. Schapiro is followed. (See *Contribución al tratamiento del taon o beriberi infantil,* by Proceso Gabriel, in the *Revista Filipina de Medicina y Farmacia,* August, 1911, pp. 441–452.)

All the foregoing studies to the contrary notwithstanding, there were still certain persons who continued shaking their heads on the matter; and among them we find Mr. Luis Guerrero who, after citing the works of the Japanese Inagaki and Nakayama, of alluding to Dr. Gabriel's and to the experiments conducted by his brother Manuel, set down the view in 1911 that the etiology of beriberi was not as yet determined and that all the ideas so far expressed were more or less theories with some approximation at the reality of the matter but with no conclusive proof in support of the rice theory. (See *Algunas consideraciones sobre la etiología y el tratamiento del beriberi infantil,* in the *Revista Filipina de Medicina y Farmacia,* August, 1911, p. 452.)

The self-same zeal of former years to reach a satisfactory solution gave rise to new plans, such as the following (see *Liga Nacional Filipina para la protección de la Infancia,* in the *Revista Filipina de Medicina y Farmacia,* October, 1911, p. 584):

"The *Colegio Médico-Farmacéutico de Filipinas,* in formal meeting assembled on September 2 last, has taken a most decisive step in appointing a committee composed of Drs. J. Albert, Chairman; Manuel S. Guerrero, Secretary; Sixto de los Angeles, Treasurer; Proceso Gabriel, Vice-Secretary; and Ariston Bautista, Benito Valdes, Galicano Apacible, Joaquin Quintos, and Fernando Calderon, members,—in order to organize in the Philippine Islands a great Society whose object shall be the protection of the life and health of our young fellow-countrymen, the Filipino children, through the institution of *La Liga Nacional Filipina para la protección de la infancia.*

"This Society, which shall be in constant touch with the International Union for the Protection of Children at Brusels, Belgium, will carry out its humanitarian mission through such means as the following:

1. Publicity: lectures, publications, etc.
2. The union of kindred associations for the purpose of easy coördination but without the unnecessary loss of individual freedom of action.
3. The organization of provincial branches.
4. The collection of all printed matter, as pamphlets, books, treatises, by-laws, reports, etc. which in general carry information relative to institutions concerned directly with childhood.
5. The study of all protective measures which may be proposed to charitable institutions, public offices, organizations, and patrons of public interests, with a view to safeguarding children against all the numerous factors which threateningly beset infant life. And for the purpose of lowering the high infant mortality rate, the league proposes likewise to aid whole-heartedly in the foundation and organization of all associations whose aim is to protect effectively children in the first year of existence.

Dr. Albert, one of the men who had most earnestly coöperated in the studies made on the subject, came to discover in his analyses the existence of an irregular form of infantile beriberi which, he says, fully suits the designation of pernicious larvate infantile beriberi because of its sudden appearance, its very brief course, and its fatal ending. (See *De la forma perniciosa larvada del beriberi infantil,* in *Memorias y comunicaciones de la primera asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1912, p. 381.)

In keeping with the desire to secure more positive data, Dr. Calderon voiced the idea that the time had come for encouraging and undertaking studies of post-mortem examinations of infantile beriberi cases in the Philippines. (See *Breves reflexiones sobre la patología infantil apropósito de una autopsia,* by Fernando Calderon, in *Memorias y comunicaciones de la primera asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1912, p. 410.)

It is manifest that if our fellow-countrymen, in their capacity as physicians, do render signal service to the fatherland through their work on behalf of our increase in population by tackling the problem of infant mortality, they also do extend a most helping hand to foreign physicians in their own professional activities. And it is thus that we see the works of Cooper; W. P. Chamberlain; Casimir Funk; Schaumann; Shiga; Suzuki, Shimamura, and Odake; Tsuzuki; Vedder and Clark; P. Chamberlain and E. B. Vedder; Breaudat and Lahing-Bonnaire; Caspari and Moszkoeski; Funk; Gibson; E. B. Vedder; Takasu;

Williams and Johnson; and others. (See *On the protective and curative properties of certain food-stuffs against polyneuritis induced in birds by diet of polished rice,* in the *Journal of Hygiene,* 1912, Vol. XII, pp. 436–462, and Vol. XIV, pp. 12–22; *La curación del beriberi infantil por la administración al niño de un extracto de salvado, y las deducciones que de aquí se desprenden sobre la etiología del beriberi,* in *Memorias y comunicaciones de la primera asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1912, p. 376.) *The anti-neuritic bases of vegetable origin in relationship to beriberi, with a method of isolation of torulin, the anti-neuritic base of yeast,* 1912; *The etiology of the deficiency diseases,* 1912; *Ueber die darstellung und wirkungsweise einer der indeer reiskleie enthaltenen, gegen experimentelle polineuritis wirksamen substauzen Vorlaeufige miteilung,* 1912; *Experimentalle studien ueber der kakke,* 1912; *Ueber oryzanin, ein bestandtheil der reiskleie und seine physiologische bedeutung,* 1912; *Antiberiberimtherapie der beriberikrankheit,* 1912; *A study of polyneuritis gallinarum: a fifth contribution to the etiology of beriberi,* in the *Philippine Journal of Science,* 1912, Vol. VII, pp. 423–458; *The cure of infantile beriberi by the administration to the infant of an extract of rice polishing, and the bearing thereof on the etiology of beriberi,* in the *Bull. of the Manila Med. Soc.,* Vol. IV, pp. 26–29; Beriberi: *Mecanismes de l'action nocive du riz decortique et de la protection due a diverses substances—Mode de traitement qui en resulte,* Saigon, 1913; *Weiteres zur beriberifrage,* Berlin, 1913; *An attempt to estimate the vitaminae-fraction in milk,* in *Biochem Journ.,* 1913, pp. 211–213; *The protective power of normal human milk against polyneuritis gallinarum or beriberi,* in the *Philippine Journal of Science,* 1913, Vol. VIII, pp. 469–473; *Beriberi,* New York, 1913, pp. 118 and 189; *and Ueber zwei eigentumliche saeuglingskrankheiten bei naturlicher ernaehrung* in Japan, 1914.)

The Japanese physicians, Drs. C. Inagaki and I. Nakayama, had acquired experience in connection with the harmful effects of the milk of mothers ill with beriberi on the cardiac contractions of the frog; and our own Dr. Manuel Guerrero made a special study and inferred that "there really exists, in the milk of beriberi-infected women who nurse their beriberi-afflicted children, a substance which causes a paralyzing action on the frog's heart, and that this substance is not excreted with the milk when the children so fed do not show any symptoms of infantile beriberi." (See *Miscellaneous notes and comments on* *beriberi*, in the *Philippine Journal of Science*, 1915, Vol. X, pp. 337–343.)

We notice later Dr. Jose Albert, in referring to the treatment of this disease and after long and tedious study of the medicine administered, who reproduces the language of Eppinger and Hess when he says the *tiqui-tiqui* extract is a medicine which, like the allseed, exerts a selective, specific influence on the pheumogastric nerve. (See *Acción de la leche de mujeres beribéricas sobre el corazón de la rana—su valor diagnóstico en el beriberi infantil, in Memorias y comunicaciones de la primera asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1912, p. 338.)

As our medical men had plunged themselves resolutely into the scrutinizing study of infantile beriberi and had thereby evinced a genuine enthusiasm and even love for the inquiry into the symptoms of the diseases afflicting our children, it is naturally to be expected that hitherto obscure theories would be cleared up. Among such later studies which always find their unqualified justification, there stands out that of Dr. Jose C. Locsin who, after studying diverse cases, finds "an intimate etiological connection between infantile beriberi and mothers' milk," to the same extent and in the same way as formerly announced by Inagaki and Nemog, Guerrero and Quintos, and others besides; so that thereby the rôle played by beriberi in convulsions among infants became an admitted fact. (See *Tratamiento del beriberi infantil por el extracto de tiqui-tiqui,* Manila, 1914. This pamphlet was likewise reproduced in *Revista Filipina de Medicina y Farmacia,* Manila, December, 1914, pag. 103.)

Dr. E. Crisostomo, with happy results for the quest of the real nature and cure of beriberi, came to establish new principles concerning the therapeutics of this disease; and Dr. Jose E. Montes found that "the employment of (colesterina) and (filosterina) in an oily solution is verily useful in beriberi." (See *Masoulelo-Convulsión—casos clínicos que demuestran el papel del beriberi infantil,* in *Actas, memorias y comunicaciones de la segunda asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1914, pag. 414.)

Doctor Montes' conclusions on the matter follow:

(*a*) Beriberi is a complex concurrence of symptoms which may not be confined to the clinical types commonly observed, so that its latent nature may be the cause that such an illness does not challenge our attention save occasionally.

(*b*) In actual practice, all the factors which exert a weaking influence on the physiological functions of the blood, whether it be in the diminution of red corpuscles or in the poverty of the haemoglobin present, or which indirectly affect the internal secretions which afford protection, suffice to release for its free action the element or agent which causes polyneuritis.

(*c*) The lymphocythaemia which is frequently noted is another factor which makes the organism susceptible to other types of infection where such a leucocyte predominates.

(*d*) Eocinofilia in the first place, or mononucleosis when the first is absent, seems to be related to the terminal or critical period of the disease.

(*e*) The colesterina and the filosterina are preparations which ought to be carried in every therapeutic stronghold against beriberi.

Following the impulse to popularize all kinds of information concerning this sickness, the *Liga Nacional Filipina para la protección de la primera infancia* founded a *Bulletin* which made the conclusive and startling announcement that thirty per cent of the children less than a year old died of this malady. (See *Terapeutica del beriberi por los compuestos colestéricos,* in *Actas, memorias y comunicaciones de la segunda asamblea regional de médicos y farmacéuticos de Filipinas,* Manila, 1914, p. 209.)

What cannot be disputed is the fact that, with the lapse of time, the field of new knowledge was continuously widening and the inquiry into the nature and treatment of the disease was probing deeper and deeper. An instance of such a gain, as heretofore said, was the case of the erudite, competent Dr. Manuel Guerrero, so early departed from our company, who gave us a respectable bibliography on the subject, entitled *El Reflejo de Ashner en el beriberi, especialmente en el beriberi infantil,* after consulting 54 authors. Such a bibliography was of course followed by his own contributions which, as he himself truthfully and aptly said, represent the first attempt on a large scale to treat infantile beriberi with tiqui-tiqui extract. (See *Beriberi infantile—su profilaxia,* in the *Bulletin,* No. 3, of the *Liga,* Manila, 1915, and in *Ang Taon o suba—Ang pag-iiñgat,* a Tagalog translation of the preceding work; *Revista Filipina de Medicina y Farmacia,* July, 1915, p. 417.) In such a study, he came to the following conclusions:

1. The tiqui-tiqui extract is an efficacious therapeutic treatment for infantile beriberi, whatever may be its clinical forms, and it is even effective as a prophylactic agent.
2. Weaning the baby from its mother, even if she be infected with beriberi, is unnecessary, whether the end pursued is prophylactic or therapeutic.
3. The mortality rate in the globular forms is only 3.43 to a hundred, while in the acuter forms, where the mortality was as high as 100%, the mortality has been reduced by the use of the extract to 75%.

4. The extract should be given in doses of 15 cc. daily from an extract of 1 to 15, for a period to last at leaf three months for therapeutic purposes, so as to avoid the recurrence of cases which usually come about in the proportion of 1.7 to 100. These precautionary measures are even more necessary when the extract is employed as a prophylactic agent, inasmuch as the return of the beriberi attack has been observable in 2.43 of every 100 cases whenever the dose was in sufficient.

5. In the very acute forms of the disease, when the extract cannot be given in the form of injections, the therapeutic dose should be 5 cc. for every half-hour until the alarming symphtoms shall have disappeared. When given as an injection, the dose should be 1 cc. injected subcutaneously every 15 minutes until the disappearance of the acute symptoms.

In the studies of this nature, radiography plays an important role; and a prominent professor, Dr. Ricardo Fernandez, asserts in an illuminating treaties that "it is a tested fact in the pathology of beriberi that the heart, particularly on the right side, is dilated and that this dilatation is understood to be one of the pathognomonic symptoms of this malady."

He then observes that "this display of the radiographs of the hearts of children ill with beriberi represents just a small portion of the rich collection which the Department of Physical Therapy in the Philippine General Hospital possesses;" and then adds that "the greater part of the existing radiographs date as far back as 1914–1915, when the Department of Pediatrics of the College of Medicine and Surgery of the University of the Philippines began testing the tiqui-tiqui extract, and especially 'vitamines,' in the treatment of infantile beriberi." (See *Tratamiento del beriberi infantil*, in *Actas, memorias, y comunicaciones de la tercera asamblea regional de médicos y farmacéuticos de Filipinas*, Manila, 1917, p. 383; and *El corazón en los niños beribéricos*, a paper read before the Colegio Médico-Farmacéutico de Filipinas, February 15, 1909, and published in the *Revista Filipina de Medicina y Farmacia*, May, 1921, p. 137.)

Through his perseverance in pursuing studies of this nature, Dr. José Albert came to discover another clinical manifestation of infantile beriberi, as in the form of pseudo-meningitis, which, although already described by Takasu of Osaka as "a neuromuscular or paralytic variety, the paralysis of the optic nerve, and whose characteristic symptom is ptosis, was nevertheless unknown in the Philippines." Then he draws the following conclusions:

1. In addition to the ancient forms of infantible beriberi, the subacute or aphonic and the acute or pernicious which resembles cardialgia, there exists in the Philippines the form of pseudo-meningitis which is similar to real cases of meningitis and thereby compelling treatment applicable

only to real meningitis. The distinguishing symptom of this new form is ptosis.

2. As in the other kinds of infantile beriberi, the form of pseudo-meningitis invariably presents the symptoms of hypertrophy and the dilatation of the right side of the heart which determines most freguently the point of attack of this illness, the food-deficiency of the vagus nerve, the neutralization of the action of this nerve; (vagotonia).

3. The tiqui-tiqui extract, when given in doses of 3 cc. every two or three hours in cases of pseudo-meningitis, produces the same results as are effectively secured in cases of the aphonic form and of cardialgia.

4. So as to offset the frequency of a recurrence of the illness, it is necessary to persist in administering the tiqui-tiqui extract for a period of three months, a practice which is common in the treatment of infantile beriberi.

The presence of such an illness among the children was thus an admitted fact after such a study on the subject; and in 1920, thirty-six cases of this disease were registered in the General Hospital in Manila. (See *La forma pseudo-meningitica del beriberi infantil,* a work read before the Section on Pediatrics, Anatomy, and Physiology of the *Cuarta asamblea regional de medicos y farmacéuticos de Filipinas,* February 7, 1918, and published in the *Revista Filipina de Medicina y Farmacia,* January, 1920, pp. 11–12; Dr. Alberto V. Tupas in the *Journal of the Philippine Islands' Medical Association,* May and June, 1921, pp. 108–110.)

In spite of the most decisive advances made in the determined endeavor to reach a definite conclusion concerning the matter, there was however one person, Dr. Jose E. Montes, who, following the lead made by his colleagues, Drs. Manuel S. Guerrero and Joaquin Quintos, who in turn had believed that the principal etiological factor contributing to the appearance of infantile beriberi was the breast-feeding of the child by a mother having beriberi larvate or otherwise, presented the case of a pair of twins; and set down the conclusion that the classic riddle of beriberi was still begging for an Oedipus. (See *Algunas notas sobre beriberi,* an address made before the Colegio Médico-Farmacéutico, February 19, 1921, and published in the *Revista Filipina de Medicina y Farmacia,* October, 1921.) Such a dissenting voice is of course another evidence that, all the recognized advances to the contrary notwithstanding, there is still a long stretch to be traversed; and the journey will no doubt be pursued because of the unbounded enthusiasm displayed and the great goal to be attained. The best proof of this resolve is the organization of that Committee on Beriberi Investigation already referred to which was formed thanks to the initiative and under the leadership of such an oft-quoted man as Dr. Albert, whom other professional investigators will surely join.

With a keen feeling of satisfaction, we touch the last milestone of our long and arduous journey. The highly creditable efforts put forth by our medical men on behalf of humanitarian interests, apart from their direct benefit to our country and to other lands suffering under the lash of the same affliction, betoken an auspicious and eventful future for the Philippines, in the science and art of curing and preventing human ills, as well as a potent incentive to our professional men to occupy in the intellectual world the place to which they are fully entitled by unflinching will and conscientious toil.

THE FIRST MINDANAO HEALTH OFFICERS' ASSEMBLY

The First Mindanao Health Officers' Assembly was opened at 8.55 on December 17, 1923, in the Court of First Instance of the Provincial Capitol of the City of Zamboanga. The Honorable Provincial Governor Saguin, the Honorable former Senator Teopisto Guingona, Dr. Jacobo Fajardo, Chief of the Division of Provincial Sanitation of the Philippine Health Service, and other provincial and municipal authorities were present. There were also 44 health officers, one nurse from San Lazaro Hospital, one public welfare worker, and one Red Cross worker present. The provinces of Samar, Leyte, Capiz, Iloilo, Cebu, Oriental Negros, Occidental Negros, Bohol, Surigao, Agusan, Zamboanga, Davao, Cotabato, and Manila were represented.

Doctor Fajardo made the opening remarks and transmitted to all delegates the message of the Director of Health. He then dealt on the advantages of any similar health conference. He stated that without the existence of the Philippine Health Service, the marked reduction of the general and infant mortality rates every year could not possibly be attained. He also emphasized the great need of improved special campaigns against malaria, the hookworm, and yaws in connection with public health work. He also expressed his deep regret for the inability of His Excellency the Governor-General, the Honorable the Secretary of Public Instruction, and Col. Edward L. Munson to be present.

Provincial Governor Saguin was next to speak. He welcomed the visiting health delegates. He said: "Such a conference as this is productive. Health is a barometer of progress. The public health work in the Department of Mindanao and Sulu, especially among the Non-Christian tribes, is very difficult;

but because of the work of the health officers here, much has already been done altho much remains to be done yet. To apply violence among the Moro health infractors has to be seriously considered by any health worker, and the only way to gain their confidence is to convince them by means of intensive conferences on hygiene and sanitation." He also praised the work of the health personnel of Mindanao and Sulu, who are well fulfilling their sacred mission as public health servants.

Former Senator Teopisto Guingona was the third speaker. His name was included in the program on previous invitation by Dr. Fajardo. The former Senator stated that as a legislator he also had taken part in the sanitation of Mindanao and Sulu. He described lengthily the first implantation of sanitation here when there were no dispensaries up to the present time. He said: "Unlike the patient of Luzon and Visayas, who enters the hospital and remains in the usual calm mood if he does not get well, the Mohammedan patient gets much disgusted if he is discharged from the hospital uncured. At the present time, with the eight hospitals and many dispensaries already established in Mindanao and Sulu, the work on sanitation here is marvelous. The health workers who are benefactors of this place have already won the confidence of the people here, and among these workers are Drs. Ampil, Kierulf, Orosa, Chiyuto, and Aguilar. The last-named has shouldered a great weight of the work of the Zamboanga General Hospital, which was at first looked down upon with disgust by the Mohammedans who were finally won over by the good and tactful work of the health personnel. Sulu is now looking for more doctors when the Moros had no need for them before."

He also stated that only those skillfully wielding the scalpel have so far succeeded in Mindanao and Sulu. To show the splendid result in sanitation here, people make resolutions to the effect that a certain number of doctors stay there permanently, thanks to the work of Doctor Fajardo who is taking charge of sanitation in Mindanao and Sulu.

Doctor Aguilar, the District Health Officer of the Province of Zamboanga, was the last speaker of the day. He dwelt on the history of sanitation in Mindanao and Sulu. He said that public health work was begun in 1913 by Colonel Munson, who was succeeded by Doctor Fajardo in 1914 until the later part of 1921, after which the work was taken up by Doctor Hernando up to the later part of 1922. Colonel Munson built the cornerstone and Doctor Fajardo the structure. Doctor Aguilar also stated that strict hospitalization of infectious diseases at the Zamboanga General Hospital has brought about the reduction of such diseases in this particular place.

The period from December 18 to 20 in the morning was occupied with the reading and the discussion of scientific papers. The afternoons were spent by varied excursions, as to a typical Moro barrio of Taluksangay about twenty kilometers from the City of Zamboanga. In that barrio the clean streets, the Antipolo System of toilets, and the municipal district dispensary were visited and seen with admiration by every visitor. The water reservoir at Pasonanca and the Penal Colony at San Ramon were likewise visited. This water reservoir exceeds that of the City of Manila in the purity of its contents. The water is brought from the gorge of the Tumaga River through three kilometers of 30-inch concrete pipe to a reservoir, whose capacity is 600,000 gallons, six kilometers from the city. The reservoir is at an elevation of 170 feet above the city and furnishes water for distribution system at 60 pounds' hydrant pressure.

Other afternoons were spent in visiting public buildings, such as the public market which arrested the attention of all excursionists by its cleanliness in every way and the fly-proof protection of the foods offered for sale there, and in attending various clinics at the Zamboanga General Hospital and the Baby Contest held in the Auditorium of the Zamboanga Carnival. This contest was attended by several hundreds of babies and mothers.

During the business session, about thirty-two resolutions were passed by the health delegates. All these measures tend to improve the work on sanitation thruout the Philippine Islands. The Conference was finished on December 22, 1923.

On December 21, 1923, at 8 p. m. there was given at the Plaza Hotel a banquet attended by United States Army officers, Colonel Waloe of the Constabulary, Doctor Fajardo of the Philippine Health Service, the Honorable Provincial Governor Saguin and other authorities, and all the health delegates. Doctor Aguilar, the District Health Officer of Zamboanga, was the toastmaster, Doctor Teofilo Corpus, Acting Assistant Executive Officer of the Philippine Health Service, represented Luzon; Dr. Anatolio Dasmariñas, District Health Officer of Occidental Negros, represented the Visayas; Dr. Cesar Mercader, President of the Sanitary Division of Cebu, represented all the Presidents of the Sanitary Divisions, and former Representatives Martinez represented "Juan de la Cruz." The following is the short speech given by Doctor Corpus at the banquet.

I have first of all to thank the health personnel of Zamboanga, the Honorable Provincial Governor, Major Fletcher of the United States Army, and all other provincial, municipal, and military authorities for the many courtesies extended to the visiting health delegates and thru whom they stay of these delegates has been both productive and recreative.

Tonight marks the closing of the First Mindanao Health Officers' Assembly. The stay of the health delegates in this city has been most productive of good results. It will not belong when we shall all leave this part of the Philippine Islands with all the health knowledge gained from the Conference securely placed in our 'bags,' ready to apply it in our respective health districts immediately on our arrival.

Several things stand out from among those having relation to our work, and among these is the great Water Reservoir at Pasonanca which supplies the City of Zamboanga and doubtly excels that of the City of Manila. There is no doubt that because of the purity of the water, the reduction of the mortality from the water-born diseases has been apparent. Other notable things are neat and clean streets, the absence of pigs running about the streets, still a health problem up north in Luzon, the rarity of mosquitoes and flies, the construction of more Antipolo toilet systems and the great Zamboanga General Hospital.

There is no doubt, likewise, that the success of the health work in Zamboanga has been due to the health personnel of this district—particularly due to a man whom I know personally, with whom I returned from the United States in 1915, a man who rarely talks but lets his scalpel speak for himself: this man is Dr. Eusebio Aguilar. I envy Doctor Aguilar, and may his successful health work be an example to us in our own respective stations. One thing, however, that we have in Luzon—I refer to the municipality of Antipolo of the Province of Rizal—which you do not have it here is the incinerator for garbage disposal. This device is recommendable in this city.

Gentlemen, the success of your health work here and the coöperation given by all the authorities concerned will be widely published in the newspapers in the City of Manila, and some of the scientific papers in the Monthly Health Bulletin of the Philippine Health Service.

In closing, we may inform the public that the Health Service has already done much, but that still much remains to do; and we may also publicly disclose the fact that we, as health workers, are doing our best to solve our health problems as they confront us; we solve these problems with a faith that will not die until we are convinced of inevitable failure; that we shall still keep on with a perseverance that will not get careless until we meet another failure; and we shall still keep on and on with a determination that will not yield until we are able to observe calmly and say, "We have the public health problems in the Philippine Islands."

ADDRESS TO THE GRADUATES *

(By Dr. R. G. Padua, P. H. S.)

His Excellency, the Vice-Governor-General, Director of Health, Members of the Faculty, Members of the Graduating Class, Ladies and Gentlemen:

I doubt if I can ever claim the honor and privilege of addressing you this afternoon. It was in the late hour this morning when I was asked to do so; and my deficiency in the art of public speaking as well as my present official status certainly do not warrant me to fill the post that Col. E. L. Munson occupies in the program. However, if you, graduates, so allow me to give you brotherly talks on what should be told to you before you assume your respective position in the Service, it will undoubtedly be a source of satisfaction that my mission is then fulfilled.

Gentlemen: You are all conscious that we are now in the period of reformation. You also know that variety and not uniformity and evolution and not involution identify the present epoch and have been prerequisites to the progress we have so far attained. The constant mutation, both in physical state and chemical composition of all in existence, is a natural phenomenon and a biological law. In one of these series of metamorphoses or developments, in fact, as an offspring to the progress of medical science, the so-called Preventive Medicine came into being. This branch of medical science, i. e. Hygiene and Public Health, is in itself a specialty and covers a wide field of action for both the medical officer and his assistant sanitary personnel.

But, human efforts require efficiency to attain good results. This fact is to you of utmost value and should not be lost sight of in any undertaking that you will henceforth make. You should all know that the works along sanitation and hygiene are not only on the acquisition of diplomas. The honor or glory attached to that "sheep-skin" you are now holding does not depend how high you stood up in the class but will be justified and accurately measured by the quality and quantity of "solid

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(*) Delivered in the Commencement Exercises, School for Sanitary Inspector, Manila, February 20, 1923.

goods" you deliver to the Service. Efficiency, therefore, efficiency for the benefit of our people, efficiency for the good of the Service, and efficiency for your own selves, should be your watchword.

The merit of a true leader is indexed by the beneficial results of his labor. You should feel that you constitute part of that great body of patriotic workers devoted for the relief of human sufferings and the prevention of human evils and diseases. Preventive medicine devolves not only the prevention of human diseases and that of premature deaths, not only the maintenance of public health and human comfort; but it embrances a wider meaning, namely, the development of a more numerous, sturdy, healthy, robust, and stronger race. You are helpers to this great and noble task. You are bound to observe, obey, and coöperate in the realization of the cherished desire to create (if I may be permitted to use the word) in our Philippine soil, a generation of men who can withstand not only human aggressiveness but also infectious and epidemic diseases.

You are, therefore, confronted with a heavy duty and a serious responsibility. You must not have the idea that you are now thru with your training. This is only the end of the beginning. You are to commence your real work and, as you proceed in the proper application of the basic principles you had acquired during the relatively short period of your training, you will undoubtedly encounter multiplying difficulties. It is hoped, however, that you are now sufficiently armed with the necessary tools to overcome such difficulties. In your capacity as Sanitary Inspectors, you will be dealing with population of varied culture, civilization, habits and religion. In short, you will observe that the field for you to work on is not as smooth as you had expected. But if you will not be unmindful that the spirit is stronger than the physical force, and that your tact, refinement, kindness, and honest observance to your official duties are requisites to overcome such obstacles, then your merits and triumphant success will not be denied you.

You will be met with desperate oppositions but be cool and conscientiously persistent in your efforts. The laity may not at all believe your preaching on sanitation and hygiene; they may totally ignore your services; but do not be discouraged, for, ignorance, existing elsewhere, has offered and will continually offer resistance to the rapid progress of public health. Altho, in this connection, an eminent authority on sanitation and hygiene has expressed that, in the development of this particular branch of science, the medical man is occasionally a disturbance, yet we do not go so far as that but rather sustain that, to be helpers in preventive medicine, the preliminary education, training, and experience are very essential. Such has been the function and the aim, in part, of the School for Sanitary Inspectors for which it was established. And you who are products of that school should prove that your Alma Mater has not brought you up in vain.

Gentlemen: Let me not be misconstrued. You are to help the health officers and not to act as physicians. The latter, if wilfully assumed on your part, would be prejudicial to your merit, detrimental to your progress, and destructive to the harmony, workings, and policy of the Service. You may, however, give the first aid treatment under the supervision of the medical officer and may act in his stead only in case of emergency and when no physician can be referred to in the locality at the time of the accident.

In conclusion, I, in the name of my fellow Officers of the Philippine Health Service, congratulate you most heartily for your brilliant success in your studies; and may the Divine Providence inspire and guide you in the honest fulfillment of your official duties to the end that you will be successful helpers to the cause of mankind and faithful servants to our country's need.

Thank you!

MISCELLANEOUS

DR. BANTUG ARRIVED FROM THE SOUTH

Doctor Bantug, Acting Executive Officer of the Philippine Health Service, returned on December 7 from a leper collection in the Visayan islands after three weeks trip.

ANTHRAX IN THE PROVINCES

Reports from the provinces with regard to the human cases and deaths of anthrax found from October 6 to November 10, were received as follows:

	Cases	Deaths
Bulacan	2	1
Pampanga	1	1
Rizal	2	2
Tarlac	1	1

The District Health Officers of these provinces have been requested to find out the relation of these cases and deaths with the present epidemic of anthrax with animals.

SEMANA DE LIMPIEZA EN MANILA

La semana de limpieza, según el Dr. Eugenio Hernando, Director de la Semana de Limpieza en la Ciudad de Manila para el año 1923 y Jefe de la División Metropolitana del Servicio de Sanidad, comenzará el próximo domingo 9 de los corrientes para terminar el sabado 16. Un servicio extra adicional se ha organizado en la Ciudad de Manila para acarrear todo exceso de basura o desperdicios que puedan recogerse durante la semana. A requerimiento de los dueños de edificios y con la recomendación de los oficiales médicos de las Estaciones Sanitarias, el Servicio de Bomberos *baldeará* cualquier *silong* u otros lugares que requieran un *baldeo* general.

La Ciudad de Manila como en los años precedentes entrará en concurso con el resto de las provincias del archipiélago en los premios que se concederán a la que obtengan el mayor promedio de presentación y limpieza.

El Departamento de Educación y de Policía de la ciudad cooperará eficazmente con la Sanidad para el mejor éxito de la labor y el Departamento de Ingeniería desplegará todas sus fuerzas conseguir una limpieza general de los lugares públicos y privados.

Pero nada utilitario se conseguirá si el vecindario de Manila no cooperase con entusiasmo con las autoridades mencionadas durante la semana de limpieza dedicándose con ardor a tal labor procurando realizar una limpieza general en todo lo susceptible de ser limpiado especialmente los solares, rellenando o desecando los *charcos*, cortando las malezas y recogiendo las basuras que en ellos hubiere, no ya para ser merecedor de algún premio que le pudiese corresponder sino para conseguir, si aún no lo ha conseguido, ocupar el primer puesto en aseo, urbanización y condiciones sanitarias no solamente entre todas las provincias del archipiélago sino en todo el extremo Oriente.

Confiando en la cultura y civismo del vecindario de Manila en varias ocasiones demostrado el Comité Ejecutivo de la ciudad espera que la Semana de Limpieza en el presente año será de un éxito notable.

FIRST MINDANAO HEALTH OFFICERS' ASSEMBLY

The following is the complete official program of the First Mindanao Health Officers' Assembly to be held at Zamboanga from December 17–22. During these days, all mornings will be devoted to scientific and business sessions, and all afternoons to visitation of hospitals, clinics, excursions to a typical Moro barrio at Taluksangan, Water Reservoir and hydro-electric plant at Pasonanca and Penal Colony at San Ramon. This conference will be attended by health officers from the Provinces of Cebu, Bohol, Leyte, Samar, Iloilo, Capiz, Oriental Negros and Occidental Negros.

December 17:

1. Opening address, by Dr. Jacobo Fajardo.
2. Address, by His Excellency, the Governor-General.
3. Address, by the Honorable, the Secretary of Public Instruction.
   (*Nos. 2 and 3 subject to change of date*)
4. Address, by the Provincial Governor of Zamboanga.
5. The Role of the Hospital in the Public Health Campaign in Mindanao, by Dr. Eusebio D. Aguilar.

December 18:

6. Modern Public Health Administration by Dr. Sulpicio Chiyuto.
7. Medical Practice Amongst the Manobos, by Dr. Jose M. Raymundo.
8. Nurses' Training, by Miss Tomasa Goduco.
9. Physical reconstruction, by Capt. Milo B. Dunning.

December 19:

10. Vaccination Campaign Plan in the Philippines, by Dr. Pedro Joven.
11. The Need of Malaria Prevention and Control, by Dr. Teofilo Corpus.
12. Yaws Control, by Drs. Gregorio Roque, Eugenio S. de Jesus and Macario Cuerpocruz.
13. Trachoma Control Among School Children, by Dr. Pedro A. Rodriguez.
14. Sanitation Contests—An Effective Aid in Public Health Work, by Dr. Cesar Mercader.
15. Coördination of Health Agents and Agencies, by Col. E. L. Munson. (Subject to change of date.)

December 20:

16. Efforts to Control Dysentery, by Dr. Constancio Camomot.
17. Intestinal Parasites with Special Reference to Hookworm Infestation and the Tetrachloride Treatment by Dr. Cristobal Manalang.
18. Problems of Disposal of Feces with Special Reference to Antipolo Closets, by Dr. Marcelino Azuzano.
19. Importance of Vital Statistics in connection with Public Health Administration, by Dr. Eugenio Hernando.
20. Closing address, by the District Health Officer of Zamboanga.

Chairman: Dr. JACOBO FAJARDO.
Secretary: Dr. MARCELINO AZUZANO.

PHILIPPINE HEALTH SERVICE OFFICIALS LEAVE FOR MINDANAO

Dr. Jacobo Fajardo, Chief of the Division of Provincial Sanitation, Dr. Teofilo Corpus, Acting Assistant Executive Officer, Dr. Pedro Joven of the Division of Communicable Diseases, and Miss Tomasa Goduco, Dietitian at San Lazaro Hospital, all of the Philippine Health Service, will leave on the S. S. Luzon on December 8 to attend the First Mindanao Health Officers' Assembly to be held at Zamboanga from December 17–22, in connection with the Carnival there. The party will return just before Christmas.

DR. HERNANDO LEAVES FOR ANTIPOLO, RIZAL

Dr. Eugenio Hernando, Chief, Division of Metropolitan Sanitation of the Philippine Health Service, in company with a representative of the Metropolitan Water District of the City of Manila will leave today for Antipolo, Rizal, to inspect the water sheds at Bosoboso, which is a branch of the Montalban River, from which the water supply of the city comes. Any possible pollution of this source will be investigated. They will return on December 7th.

YAWS CLINIC IN RIZAL

Doctor Limjoco, the District Health Officer of Rizal, reports that during the month of October, a total of 389 persons received intravenous injections of neosalvarsan in the municipalities of Taguig, Pasig, Binangonan, Pateros and Taytay. A total of 244 males and 145 females; 191 adults and 198 children were treated.

DOCTOR HERNANDO BACK FROM INSPECTION

Dr. Eugenio Hernando, Chief of Metropolitan Sanitation of the Philippine Health Service, returned from Bosoboso, Antipolo, after inspecting the branch of the Montalban River there. He brought back the assurance that there is no danger of the water supplying the City of Manila being contaminated with anthrax from this source.

Dr. Hernando reports that there is no case of anthrax in the barrio of Bosoboso, and the Metropolitan Water District has placed there a sufficient number of guards to protect the watershed. To avoid any danger of possible contamination from the inhabitants of Hacienda Pinugay, the Director of Health has detailed permanently one male nurse at that locality so as to detect any communicable disease that may be registered and so that all precautions may be done immediately in connection with the water supply.

LA SANIDAD PIDE COOPERACIÓN AL PÚBLICO Y A LOS MÉDICOS PRIVADOS

1. Casos de fiebre tifoidea y disenteria continuan registrándose diariamente en esta capital. El inmediato conocimiento de tales casos así como la propia disposición de los mismos lo más pronto que sea posible son las medidas más eficaces que pueden dictarse para evitar que un caso registrado en una familia contagie a los demás individuos de la misma y a las familias vecinas.

2. Los oficiales sanitarios de las Estaciones de Manila tienen el deber de acudir a cualquier llamada que alguna persona haga por cualquier en-

fermedad y dichos oficiales están en la obligación de disponer lo conveniente para el mejor cuidado y atención del enfermo así como de la protección de la comunidad.

3. Por la noche (de 4 p. m. a 7 a. m.) se tiene montado un servicio de guardia en la Estación Sanitaria de Intramuros, teléfono 878, y el médico de guardia atenderá cualquier llamada que se haga durante dichas horas. De 7 a. m. a 4 p. m. cada una de las Estaciones Sanitarias atiende la llamada correspondiente.

4. El Hospital de Enfermedades Infecciosas que la Sanidad mantiene en la ciudad está convenientemente equipado y cuenta con un personal idóneo de médicos y enfermeros todos filipinos en quienes los pacientes pueden confiar y donde gozarán de mejor atención de la que tal vez se les podría dispensar en sus propios domicilios.

5. Ahora bien el servicio tan liberalmente establecido, de nada serviría si el público no cooperase notificando inmediatamente a la Estación Sanitaria correspondiente de cualquier caso de enfermedad (sea contagiosa o no) de que ellos tuviesen conocimiento y particularmente esta cooperación sería admirable y de eficaz resultado si los médicos en ejercicio y aun los hospitales diesen inmediatamente cuenta a las autoridades Sanitarias de cualquier caso de enfermedad comunicable que tuviesen bajo su tratamiento o que llegase a conocimiento de los mismos.

6. Las ordenanzas de la Ciudad hacen obligatoria tal notificación y proveen penas para los infractores; pero la Oficina de Sanidad no desea valerse de medios coercitivos, siempre que sea posible, para hacer cumplir una provisión. Confía y cree en el civismo del vecindario de Manila y de los médicos que en la capital ejercen que han de cumplir por deber moral y no por temor con una medida que no redunda en beneficio ni en prestigio del Servicio, sino en el *bien* de la comunidad.

7. El número del teléfono y la dirección de las Estaciones de Sanidad son los siguientes:

Estación No. 1 (Intramuros) Teléfono No. 878, Potenciana Building.
Estación No. 2 (Meisic) Teléfono No. 9623, 2 Felipe II.
Estación No. 4 (Sampaloc) Teléfono No. 206, 74 Gardenia.
Estación No. 5 (Tondo) Teléfono No. 9509, 270 Moriones.
Estación No. 6 (Paco) Teléfono No. 242, Plaza Dilao.

YAWS IN ZAMBALES

A vigorous campaign against yaws is being wages in the Province of Zambales. Dr. José Castrillo in a telegraphic communication to this office states that 274 persons showing yaws in its different stages were treated recently at San Narciso. Yesterday he was at San Felipe and today at San Antonio for the same purpose.

ANTI-ANTHRAX CAMPAIGN IN LAGUNA

Dr. V. Rivera Sayo, District Health Officer of Laguna, has given a series of lectures on "anthrax" and its prophylaxis to the municipal presidents of Laguna who were called by the Provincial Governor to assemble for that purpose on December 16, 1923. Presidents of Sanitary Divisions will talk on anthrax prevention in the near future tc the concejales and the tenientes del barrio in their respective divisions.

DR. VILLAFRANCA BACK FROM INSPECTION

Dr. Rafael Villafranca, Chief, Office of General Inspection, has been in the towns of Bigaa, Bocawe and Sta. Maria, Bulacan, coöperating with the

officers of the Philippine Health Service detailed in those municipalities for the suppression of anthrax. Doctor Villafranca has held a number of conferences with regard to anthrax prevention. As a result of his inspection, he found no new cases reported since the beginning of this month, except in the town of Bocawe where 2 cases were reported on the 22nd of this month.

HEALTH STATION NO. 4 MOVED TO G. TUASON

Health Station No. 4 located at Calle Gardenia No. 74, Sampaloc, has been moved today to Calle G. Tuason No. 204, Sampaloc, having the same telephone number (206).

ANNOUNCEMENT

The Eighth Annual Clinical Session of the American Congress on Internal Medicine will be held in the Amphitheatres, Wards and Laboratories of the various institutions concerned with medical teaching, at St. Louis, Mo., beginning Monday, February 18th, 1924.

Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session.

Address enquiries to the Secretary-General.

ELSWORTH S. SMITH, *President*
St. Louis, Mo.

FRANK SMITHIES, *Secretary-General,*
1002 N. Dearborn St.,
Chicago, Ill.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of December, 1923]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923 [1]

BY NATIONALITIES

Nationality	Population
Americans	8,184
Filipinos	277,625
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,882

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,864
No. 2, Meisic	104,087
No. 4, Sampaloc	49,821
No. 5, Tondo	80,571
No. 6, Paco	32,539
Total	308,882

[1] Estimated on the basis of last figure published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, DECEMBER, 1923

Date	Pressure [1] mean	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	760.90	25.2	32.9	6	18.8	3	27.6	27.9
11-20	60.27	25.0	31.9	18	20.1	12	27.4	27.6
21-31	61.23	24.2	31.4	22	17.5	27	27.2	27.5

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	79.4	84.0	7	76.0	6
11-20	80.8	88.8	16	76.1	14
21-31	79.2	84.5	21	72.9	31

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, DECEMBER, 1923—Continued

Date	Wind				Atmidometer [1] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	NE. quad	1,409.0	207.0	4	32.5	3.9	6
11-20	NE. quad	1,258.5	180.0	13	28.1	4.4	14
21-31	NE. quad	1,273.5	139.0	27	35.3	4.4	26

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	57-50	7-55	2	4.2	3
11-20	34-25	6-00	14	15.6	3
21-31	57-10	7-25	26	3.3	2

[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	6	5	11	41.35
Filipinos	548	558	1,106	46.94
Spaniards	....	1	1	6.03
Other Europeans	3	3	6	62.78
Chinese	29	19	48	31.67
All others	3	4	7	37.73
Total and average	589	590	1,179	45.71

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	126	134	260	6	8	14	274	86.40
No. 2, Meisic	81	76	157	7	10	17	174	19.70
No. 4, Sampaloc	94	100	194	8	10	18	212	50.64
No. 5, Tondo	191	163	354	11	9	20	374	54.69
No. 6, Paco	62	79	141	3	1	4	145	52.50
Total	554	552	1,106	35	38	73	1,179	45.71

Number of births attended by physicians, living, 345; stillbirths, 23.
Number of births attended by midwife, living, 98; stillbirths, 2.
Number of births attended by family, living, 736; stillbirths, 14.

NUMBER OF DEATHS AND DEATHRATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	1	....	1	3.76
Filipinos	357	304	661	28.05
Spaniards	3	2	5	30.13
Other Europeans	1	....	1	10.46
Chinese	26	3	29	19.14
All others	....	1	1	5.38
Total and average	388	310	698	27.06

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	125	96
Divorced		
Widowed	35	70
Single	280	180
Condition not stated	4	2
Total	444	348
Grand total	792	

Stillbirths	39
Number of death with medical attendance	391
Number of death without medical attendance	401

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	42	27	2		71
30 days to under 1 year	83	53	15	9	160
1 year to under 2 years	38	29	3	2	72
2 years to 4 years	20	29		3	52
5 years to 9 years	6	7	1		14
10 years to 14 years	5	2	1		8
15 years to 19 years	17	9	1		27
20 years to 29 years	41	32	12	7	92
30 years to 39 years	43	29	4	5	81
40 years to 49 years	24	21	8	7	60
50 years to 59 years	21	18	5	2	46
60 years to 69 years	17	11	1		29
70 years to 79 years	17	13	1		31
80 years to 89 years	6	16	2	2	26
90 years to 99 years	7	13		1	21
100 years and over	1	1			2
Age not stated					
Total	388	310	56	38	792

DEATHS AND DEATHRATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual deathrate per 1,000
No. 1, Intramuros	129	40.68
No. 2, Meisic	113	12.79
No. 4, Sampaloc	133	31.77
No. 5, Tondo	336	49.13
No. 6, Paco	81	29.83
Total	792	30.71

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			8	10					6				24
4. Malaria			2										2
6. Measles				2									2
8. Whooping cough				1									1
9. Diphtheria and croup			1										1
10. Influenza				2									2
14. Dysentery			7	7		1							15
17. Leprosy			2	2									4
19. Other epidemic diseases				2									2
23. Rabies			2										2
24. Tetanus			4	1									5
27. Beriberi			4	2						1			7
27a. Beriberi, infantile			28	18					1				47
28. Tuberculosis of the lungs			75	60			1		5				141
29. Acute miliary tuberculosis			1	1									2
30. Tuberculous meningitis			5	2						1			8
31. Abdominal tuberculosis			4	3	1								8
35. Disseminated tuberculosis			1	1									2
43. Cancer and other malignant tumors of the breast										1			1
45. Cancer and other malignant tumors of other organs or of organs not specified			2						2				4
47. Acute articular rheumatism			1	1									2
48. Chronic rheumatism and gout			1										1
50. Diabetes			1										1
55. Other general diseases					1								1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			11	8									19
(2) Cerebro-spinal meningitis (undefined)			1	1									2
64. Cerebral hæmorrhage, apoplexy			10	2					1				18
65. Softening of the brian			1										1
66. Paralysis without specified cause				1								1	2
68. Other forms of mental alienation			6	3									9
69. Epilepsy			2										2

III. Diseases of the circulatory system													
78. Acute endocarditis			1	2									3
79. Organic diseases of the heart			6	7		1			3				17
81. Diseases of the arteries, atheroma, aneurysm, etc									1				1
IV. Diseases of the respiratory system													
89. Acute bronchitis			27	16									43
90. Chronic bronchitis			7	11									18
91. Broncho-pneumonia			25	27					1				53
92. Pneumonia			2	4					1				7
93. Pleurisy			1	2									3
94. Pulmonary congestion, pulmonary apoplexy				2									2
96. Asthma			1										1
V. Diseases of the digestive system													
100. Diseases of the pharynx			1										1
102. Ulcer of the stomach			1										1
104. Diarrhœa and enteritis (under 2 years)			19	6									25
105. Diarrhœa and enteritis (2 years and over)				3									3
107. Intestinal parasites			1	1									2
108. Appendicitis and typhlitis				1									1
109. Hernias, intestinal obstructions			4	1									5
118. Cirrhosis of the liver	1			1					1				3
115. Other diseases of the liver			1						1				2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acutenephritis			5	7									12
120. Bright's disease			4	10	1				1				16
130. Other diseases of the uterus				2									2
VII. The puerperal state													
135. Puerperal hæmorrhage				4									4
136. Other accidents of labor				1									1
137. Puerperal septicæmia				5									5
138. Puerperal albuminuria and convulsions				2									2
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle			2										2
144. Acute abscess			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)	......	......	5	6	......	......	......	......	......	......	......	......	11
(2) Congenital debility	......	......	36	19	......	......	......	......	......	......	......	......	55
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy	......	......	2	1	......	......	......	......	1	......	......	......	4
XII. Old age													
154. Senility	......	......	17	30	......	......	......	......	......	......	......	......	47
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)	......	......	2	......	......	......	......	......	......	......	......	......	2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	......	......	2	......	......	......	......	......	1	......	......	......	3
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	......	......	3	3	......	......	......	......	......	......	......	......	6
Total	1	......	357	304	3	2	1	......	26	3	......	1	698
Grand total	1		661		5		1		29		1		698

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever				1					2				3
9. Diphtheria and croup				2									2
14. Dysentery			1										1
27. Beriberi			1						1				2
27a. Beriberi, infantile			6	2									8
28. Tuberculosis of the lungs			7	6			1		3				17
35. Disseminated tuberculosis				1						1			2
40. Cancer and other malignant tumors of the stomach, liver			1	1									2
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1	1									2
42. Cancer and other malignant tumors of the female genital organs				1									1
43. Cancer and other malignant tumors of the breast				1									1
54. Anemia, chlorosis											1		1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis				3									3
(2) Cerebro-spinal meningitis (undefined)			1										1
64. Cerebral hæmorrhage, apoplexy			1										1
69. Epilepsy			1										1
III. Diseases of the circulatory system													
79. Organic diseases of the heart			1	1									2
81. Diseases of the arteries, atheroma, aneurysm, etc			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			4	3									7
91. Broncho-pneumonia			5	2									7
92. Pneumonia			1	2									3
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			2										2
105. Diarrhœa and enteritis (2 years and over)												1	1
109. Hernias, intestinal obstructions			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of deat	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1	1									2
120. Bright's disease			1										1
122. Other diseases of the kidneys and annexa				1									1
124. Diseases of the bladder			1										1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
136. Other accidents of labor				1									1
VIII. Diseases of the skin and of the cellular tissue													
144. Acute abscess			1										1
145. Other diseases of the skin and annexa			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			2										2
XII. Old age													
154. Senility			2	3									5
XIII. Affections caused by external causes													
171. Traumatism by cutting or piercing instruments			1										1
172. Traumatism by fall			1										1
186. Other external violence			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1										1
Total			48	36			1		6	1	1	1	94
Grand total			84				1		7		2		94

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
8. Whooping cough					1	1
9. Diphtheria and croup					1	1
24. Tetanus					1	1
27a. Beriberi, infantile	1				54	55
29. Acute miliary tuberculosis					1	1
30. Tuberculous meningitis					1	1
61. Simple meningitis:						
(1) Simple meningitis					7	7
(2) Cerebrospinal meningitis (undefined)					1	1
89. Acute bronchitis					27	27
90. Chronic bronchitis					9	9
91. Broncho-pneumonia					20	20
92. Pneumonia					3	3
93. Pleurisy					1	1
94. Pulmonary congestion, pulmonary apoplexy					1	1
104. Diarrhœa and enteritis					22	22
119. Acute nephritis					3	3
143. Furuncle					1	1
144. Acute abscess					1	1
145. Other diseases of the skin and annexa					1	1
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart				1		1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	8			2	1	11
(2) Congenital debility	14			24	19	57
152. Other diseases peculiar to early infancy:						
(2) Other causes peculiar to early infancy				3	1	4
Total	23			30	178	231

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,380
Number of rats caught by spring traps	3,654
Number of cage wire traps set	704
Number of rats caught by cage wire traps	10
Number and kind of baits (coconuts)	22,084
Number of poison portions placed	17,204
Number of rats found poisoned	541
Number of rats killed by clubs, and other weapons	1,450
Number of rats found dead from other causes	1,105
Total number of rats otherwise caught, found dead or killed	6,760
Total number of rats sent to the Laboratory for examination	6,760
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF DECEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	10	0	20	0	5	0	15	2	2	0	54
Female	1	0	8	0	2	1	7	0	3	1	23
Dead:											
Male	0	0	0	1	0	0	0	0	0	0	1
Female	0	0	0	0	0	2	0	1	0	2	5
Total:											
Male	10	0	20	1	5	0	15	2	2	0	55
Female	1	0	8	0	2	3	7	1	3	3	28
Grand total	11	0	28	1	7	3	22	3	5	3	83

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	7	1	0	1	3	1	1	0	14
Female	0	0	1	0	1	1	4	1	0	2	10
Total	0	0	8	1	1	2	7	2	1	2	24

Total cases reported within the month in the City of Manila		122
Resident cases	89	
Non resident cases	32	
Foreign cases	1	
Total deaths reported within the month in the City of Manila		27
Deaths among resident cases	24	
Deaths among non resident cases	3	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		112
Autopsy	0	
Blood culture	0	
Clinically positive	89	
Feces	0	
Widal reaction	23	
Cases confirmed as paratyphoid fever		0
Cases not confirmed		10

Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF DECEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	1	0	2	1	3	0	0	0	7
Female	1	0	2	0	1	1	1	0	3	0	9
Dead:											
Male	0	0	0	1	0	2	0	0	0	1	4
Female	0	0	0	1	0	3	0	2	0	2	8
Total:											
Male	0	0	1	1	2	3	3	0	0	1	11
Female	1	0	2	1	1	4	1	2	3	2	17
Grand total	1	0	3	2	3	7	4	2	3	3	28

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	1	0	0	1	0	2	2	0	0	1	7
Female	0	0	0	1	0	3	0	2	0	2	8
Total	1	0	0	2	0	5	2	2	0	3	15

Total cases reported within the month in the City of Manila		35
Resident cases	29	
Non-resident cases	6	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		16
Deaths among resident cases	15	
Deaths among non-resident cases	1	
Deaths among foreign cases	0	
Reported as:		
Acute dysentery	6	
Amœbic dysentery	6	
Bacillary dysentery	8	
Chronic dysentery	3	
Dysentery	9	
Erroneously reported as dysentery	3	
Total		35

CONFIRMED CHOLERA CASES REPORTED DURING THE MONTH OF DECEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CONFIRMED CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Dead:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases confirmed as cholera	0	
Resident cases not confirmed (Found negative)	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	
Deaths among non-resident cases	0	
Deaths among foreign cases	0	

Cholera carrier—None.

DIPHTHERIA REPORTED DURING THE MONTH OF DECEMBER, 1923, CITY OF MANILA, RESIDENTS ONLY

CASES

Reported	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Living:											
Male..........	0	0	0	0	1	0	0	0	1	0	2
Female........	1	0	0	0	0	0	0	0	0	0	1
Dead:											
Male..........	0	0	0	0	0	0	0	0	0	0	0
Female........	0	0	0	0	0	0	0	0	0	0	0
Total:											
Male..........	0	0	0	0	1	0	0	0	1	0	2
Female........	1	0	0	0	0	0	0	0	0	0	1
Grand total..	1	0	0	0	1	0	0	0	1	0	3

DEATHS

Sex	Health districts										Total
	No. 1		No. 2		No. 4		No. 5		No. 6		
	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home	
Male..............	0	0	0	0	1	0	0	0	0	0	1
Female............	0	0	0	0	0	0	0	0	0	0	0
Total.......	0	0	0	0	1	0	0	0	0	0	1

Total cases reported within the month in the City of Manila		21
Resident cases	15	
Non-resident cases	6	
Resident cases confirmed as diphtheria	3	
Resident cases not confirmed as diphtheria	12	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases (Confirmed)	1	
Deaths among resident cases (Not confirmed)	0	
Deaths among non-resident cases (Confirmed)	2	

Diphtheria carrier—2.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1923

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	8	1	2	0
Varioloid	0	0	0	0
Varicella	8	6	0	0
Smallpox	0	0	0	0
Measles	10	9	0	2
Whooping cough	0	1	0	1
Influenza	15	6	0	2
Bubonic plague	0	0	0	0
Beriberi	4	3	4	3
Beriberi, infantile	29	18	29	18
Pulmonary tuberculosis	135	84	82	61
Tuberculosis of all forms	11	7	11	7
Encephalitis lethargica	1	3	0	2

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3	1	0	0
Varioloid	0	0	0	0
Varicella	4	1	0	0
Smallpox	0	0	0	0
Measles	0	2	0	0
Whooping cough	0	0	0	0
Influenza	3	0	0	0
Bubonic plague	0	0	0	0
Beriberi	2	0	2	0
Beriberi, infantile	6	2	6	2
Pulmonary tuberculosis	24	19	11	6
Tuberculosis of all forms	0	2	0	2
Encephalitis lethargica	0	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF DECEMBER, 1923

Sera and vaccines	On hand December 1, 1923	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric (units)	751,000		751,000	460,000	291,000
Anti-dysenteric serum (ampoules)	146	50	196	102	94
Anti-tetanic serum (units)		167,000	167,000	167,000	
Cholera vaccine (c. c.)	9,290		9,290	6,990	2,300
Dried vaccine virus (units)	9,900	40,000	49,900	30,400	19,500
Fresh vaccine virus (units)	36,600	240,800	277,400	230,100	47,300
Gonococcus vaccine (ampoules)		50	50	50	
Mixed cholera-typhoid vaccine (c. c.)	1,110	45,000	46,110	38,640	7,470
Normal horse serum (ampoules)					
Typhoid vaccine (c. c.)	3,090	24,000	27,090	21,990	5,100

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1923

Health districts	Total vaccinations	Inspection of persons vaccinated							
		Under 1 year		1 year to 4		5 years and over		Total	
		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros....	992	167	3	50	14	....	....	217	17
No. 2, Meisic........	849	225	3	109	130	....	....	334	133
No. 4, Sampaloc.....	800	248	1	226	159	....	....	474	160
No. 5, Tondo........	934	408	4	395	66	....	....	803	70
No. 6, Paco..........	322	117	2	23	9	16	24	156	35
Total.........	3,897	1,165	13	803	378	16	24	1,984	415

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1923

See consolidated table of Mixed Vaccinations in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros.........	....	....	....	....	311	75
No. 2, Meisic	....	....	....	....	775	136
No. 4, Sampaloc.........	....	....	....	....	361	424
No. 5, Tondo	761	460	653	328	396	298
No. 6, Paco............	....	....	....	....	155	729
Total...............	761	460	653	328	1,998	1,662

Districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros.....	......	......	......	......	147	47	......	......	580
No. 2, Meisic	......	......	......	......	582	126	......	......	1,619
No. 4, Sampaloc.......	......	......	......	......	336	405	......	......	1,526
No. 5, Tondo..........	862	485	767	335	531	363	2,568	2,083	1,588
No. 6, Paco...........	......	......	......	......	337	972	......	......	2,198
Total...........	862	485	767	335	1,933	1,913	2,568	2,083	7,506

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see table Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1923

Districts	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	657	182	430	146		
No. 2, Meisic	964	152	729	155		
No. 4, Sampaloc	845	306	520	408		
No. 5, Tondo						
No. 6, Paco	822	399	426	1,763		
Total	3,288	1,039	2,105	2,472		

Districts	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	268	157	295	116			1,264	987	
No. 2, Meisic	1,001	140	829	135			2,257	1,848	
No. 4, Sampaloc	536	284	427	316			1,971	1,671	
No. 5, Tondo									
No. 6, Paco	806	562	319	975			2,589	3,483	
Total	2,611	1,143	1,870	1,542			8,081	7,989	

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

Anti-typhoid vaccines were used in the third injections.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]

Provinces	Total vaccinations[2]	Inspection of persons vaccinated			
		Under 1 year[3]		1 year to 4[3]	
		Positive	Negative	Positive	Negative
Abra	6,514	269	85	693	388
Agusan	6,249	150	60	245	95
Albay	158,761	5,847	1,856	11,067	4,081
Antique	14,192	1,450	480	1,870	919
Bataan	49,486	608	190	4,414	1,336
Batanes	1,696	46	21	115	48
Batangas	156,077	6,830	1,087	14,999	4,164
Bohol	41,999	1,920	643	4,358	1,722
Bukidnon	6,412	8	3	56	29
Bulacan	37,883	4,186	660	5,692	1,824
Cagayan	25,867	1,791	237	3,337	700
Camarines Norte	4,897	457	194	335	180
Camarines Sur	18,946	1,236	669	2,181	958
Capiz	23,133	1,318	335	2,020	574
Catanduanes	10,326	1,069	405	571	671
Cavite	29,354	1,677	251	2,490	704
Cebu	83,005	13,235	5,735	10,524	6,140
Cotabato	15,714	118	114	478	586
Culion Leper Colony	321	...	...	...	...
Davao	11,845	...	...	...	...
Ilocos Norte	26,640	2,287	699	4,105	2,570
Ilocos Sur	46,893	3,579	777	7,201	2,746
Iloilo	57,412	2,039	439	3,335	1,072
Isabela	9,209	228	186	971	815
Laguna	35,836	2,065	536	3,994	1,179
Lanao	12,825	218	113	663	390
La Union	20,631	1,464	617	1,548	1,442
Leyte	84,441	471	176	1,775	392
Marinduque	10,214	288	161	913	595
Masbate	8,500	55	29	379	190
Mindoro	12,780	591	305	1,545	840
Misamis	19,318	1,033	790	2,550	1,685
Mountain Province	24,037	117	90	153	160
Nueva Ecija	22,005	3,605	997	1,336	1,127
Nueva Vizcaya	7,389	844	146	1,231	219
Occidental Negros	41,729	4,571	1,694	5,937	3,341
Oriental Negros	108,652	3,885	1,916	10,717	7,408
Palawan	9,109	4	1	54	40
Pampanga	58,210	6,260	1,143	6,593	1,852
Pangasinan	95,929	10,314	2,504	10,276	3,500
Rizal	24,282	2,599	771	3,085	1,284
Romblon	10,101	84	88	279	206
Samar	58,112	470	163	960	476
Sorsogon	14,367	1,304	545	1,408	662
Sulu	8,516	392	144	1,472	687
Surigao	10,340	236	248	1,480	1,157
Tarlac	104,207	3,875	700	10,942	3,181
Tayabas	27,638	1,753	663	2,071	851
Zambales	34,747	451	144	625	291
Zamboanga	24,955	823	383	1,679	1,089
Total	1,731,701	98,120	30,193	154,722	66,461

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[1] Compilation of reports received since January up to December.

[2] Taken from Philippine Health Service Form No. 59.

[3] Taken from Provincial Form No. 70.

Other reports not yet received.

TOTAL VACCINATIONS OF SMALLPOX IN THE PROVINCES FOR THE YEAR 1923[1]—Continued

Provinces	Inspection of persons vaccinated			
	5 years and over [3]		Total [2]	
	Positive	Negative	Positive	Negative
Abra	1,805	2,276	2,918	3,048
Agusan	1,112	858	1,507	1,013
Albay	32,350	18,028	67,445	34,836
Antique	1,502	1,872	6,782	4,675
Bataan	7,870	6,336	21,730	16,480
Batanes	509	271	874	532
Batangas	27,227	38,634	60,296	54,956
Bohol	9,547	5,249	24,402	11,545
Bukidnon	983	1,102	1,985	2,067
Bulacan	9,924	6,200	19,802	8,684
Cagayan	1,898	666	17,043	5,336
Camarines Norte	741	588	3,102	1,412
Camarines Sur	3,413	2,218	9,535	5,676
Capiz	4,803	2,470	13,499	5,842
Catanduanes	1,066	1,449	3,453	3,325
Cavite	3,145	2,130	18,008	9,497
Cebu	7,624	7,615	34,845	21,861
Cotabato	2,211	3,260	2,876	4,148
Culion Leper Colony	....	....	80	47
Davao	37	28	5,607	5,334
Ilocos Norte	5,843	9,056	12,235	12,325
Ilocos Sur	11,730	7,550	25,017	12,657
Iloilo	4,531	1,849	25,631	8,676
Isabela	1,064	1,867	3,100	3,854
Laguna	7,173	9,400	16,755	14,036
Lanao	1,145	756	5,120	2,282
La Union	1,893	4,840	6,194	8,663
Leyte	6,443	1,730	39,322	11,580
Marinduque	3,376	2,571	4,790	3,473
Masbate	1,012	1,448	1,673	2,329
Mindoro	2,769	2,231	5,331	3,875
Misamis	3,706	2,548	7,289	5,023
Mountain Province	347	364	9,293	5,910
Nueva Ecija	2,095	3,895	10,073	8,814
Nueva Vizcaya	1,381	434	5,904	1,264
Occidental Negros	6,713	4,496	22,105	11,882
Oriental Negros	20,865	20,832	42,368	35,371
Palawan	648	278	4,433	2,129
Pampanga	4,897	3,244	23,829	7,769
Pangasinan	13,402	7,462	57,204	23,485
Rizal	3,267	3,444	9,388	5,814
Romblon	1,127	1,406	3,244	3,036
Samar	1,328	1,181	19,343	12.323
Sorsogon	1,768	948	7,217	3,211
Sulu	1,849	1,174	4,664	2,921
Surigao	2,071	1,594	4,412	3,455
Tarlac	17,860	18,206	45,317	33,267
Tayabas	3,598	1,834	16,309	8,488
Zambales	1,086	1,250	12,718	11,318
Zamboanga	3,183	7,107	5,695	8,606
Total	255,937	226,245	771,762	478,153

[1] Compilation of reports received since January up to December.
[2] Taken from Philippine Health Service Form No. 59.
[3] Taken from Provincial Form No. 70.
Other reports not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923[1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injection	
	A.	C.	A.	C.	A.	C.
Albay	5,665	3,414	129	52	....	....
Batangas	3,011	2,067	25	....	....	....
Bulacan	657	729	33	22	....	....
Capiz	604	401	207	153	....	....
Catanduanes	34	15	34	15	....	....
Cebu	369	366	236	89	....	....
Davao	170	124	83	113	....	....
Isabela	201	128	61	26	....	....
Laguna	614	605	351	202	....	....
Misamis	34	81	....	....	....	....
Oriental Negros	65	63	44	72	....	....
Pampanga	157	128	62	40	....	....
Pangasinan	947	728	102	26	....	....
Rizal	108	13	44	6	....	....
Sorsogon	980	413	371	141	....	....
Tayabas	408	318	21	2	....	....
Zambales	171	73	149	64	....	....
Total	14,195	9,666	1,952	1,023	....	....

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	4,997	2,935	206	109	....	....	17,011	496	....
Batangas	2,826	1,329	....	....	....	....	9,233	25	....
Bulacan	661	517	38	16	....	....	2,564	109	....
Capiz	468	287	68	44	....	....	1,760	472	....
Catanduanes	12	1	12	1	....	....	62	62	....
Cebu	235	231	158	107	....	....	1,201	590	....
Davao	55	70	34	63	....	....	419	293	....
Isabela	170	156	32	17	....	....	655	136	....
Laguna	471	580	279	365	....	....	2,270	1,197	....
Misamis	30	29	....	....	....	....	174	....	....
Oriental Negros	68	45	47	64	....	....	241	227	....
Pampanga	69	116	26	38	....	....	470	166	....
Pangasinan	718	615	82	22	....	....	3,008	282	....
Rizal	82	15	8	2	....	....	218	60	....
Sorsogon	719	318	303	78	....	....	2,430	893	....
Tayabas	319	282	8	13	....	....	1,827	44	....
Zambales	134	69	115	62	....	....	447	390	....
Total	12,034	7,595	1,416	1.001	....	....	43,490	5,392	....

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[1] Compilation of reports received since January up to December.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	77	139	39	32	72	115
Albay	400	24	239	9	13	3
Batangas	143	23	96	11	31	2
Bulacan	794	450	552	265	360	176
Camarines Sur	222	68	35	21	8	3
Capiz	30	8	11	2	5	2
Catanduanes	336	394	280	381	....	....
Cavite	231	73	68	45	50	47
Cebu	72	52	38	....	....	....
Ilocos Sur	1,469	329	877	175	690	364
Isabela	365	120	42	31	....	....
Laguna	1,717	1,584	836	949	520	819
Nueva Ecija	8	....	....	....	....	....
Occidental Negros	43	4	19	2	....	....
Oriental Negros	57	13	49	....	11	....
Pampanga	2,475	1,878	1,854	1,193	595	422
Pangasinan	2,123	1,211	1,701	836	1,476	696
Rizal	549	161	372	78	151	54
Tayabas	108	31	43	....	....	....
Zambales	1,182	1,132	1,106	889	961	812
Total	12,401	7,694	8,257	4,919	4,943	3,515

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	66	98	41	65	55	123	380	177	365
Albay	247	27	180	23	21	9	698	451	46
Batangas	116	35	61	12	17	4	317	180	54
Bulacan	786	424	548	278	414	211	2,454	1,643	1,161
Camarines Sur	152	91	43	14	7	4	533	113	22
Capiz	3	7	2	4	1	....	48	19	8
Catanduanes	224	397	205	369	....	....	1,351	1,235	....
Cavite	255	75	56	48	34	46	634	217	177
Cebu	57	35	32	....	....	....	216	70	....
Ilocos Sur	983	376	808	[illegible]	486	244	3,157	2,046	1,784
Isabela	82	66	25	18	....	....	633	116	....
Laguna	1,201	1,415	750	1,111	506	961	5,917	3,646	2,806
Nueva Ecija	3	....	5	....	....	....	11	5	....
Occidental Negros	7	3	10	3	....	....	57	34	....
Oriental Negros	32	13	22	7	15	7	115	78	33
Pampanga	2,377	1,740	1,645	1,179	523	476	8,470	5,871	2,016
Pangasinan	1,563	1,115	1,290	776	1,153	641	6,012	4,603	3,966
Rizal	460	175	295	89	147	42	1,345	834	394
Tayabas	78	28	25	1	....	....	245	69	....
Zambales	1,138	1,012	1,104	816	1,008	761	4,464	3,915	3,542
Total	9,830	7,132	7,147	4,999	4,387	3,529	37,057	25,322	16,374

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[1] Compilation of reports received since January up to December.
Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]

Provinces	Number of persons vaccinated					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	244	155	171	287	....	....
Antique	797	658	508	435	49	31
Bataan	471	134	269	63	....	....
Batanes	68	8	11	2	....	....
Batangas	1,168	449	790	202	....	....
Bohol	195	25	215	6	....	....
Bulacan	248	67	155	51	14	2
Cagayan	575	548	221	32	....	....
Camarines Norte	605	56	195	27	....	....
Camarines Sur	1,481	684	566	278	....	....
Capiz	61	1	4	....	....	....
Cavite	830	391	498	87	....	....
Cebu	796	257	223	204	34	4
Cotabato	189	104	....	....	....	....
Davao	344	18	248	12	....	....
Ilocos Norte	1,726	1,645	940	529	....	....
Ilocos Sur	2,453	512	1,229	212	261	89
Iloilo	1,730	1,422	1,884	1,144	....	....
Isabela	261	49	64	7	....	....
Laguna	126	53	60	54	....	....
Lanao	40	15	5	8	....	....
La Union	1,489	1,116	758	268	....	....
Leyte	211	15	96	22	....	....
Marinduque	911	537	549	550	....	....
Masbate	652	332	389	98	....	....
Mindoro	250	104	89	21	22	....
Misamis	629	718	396	320	....	11
Nueva Ecija	1,071	762	981	733	151	41
Nueva Vizcaya	331	230	465	208	15	35
Occidental Negros	254	112	105	65	....	....
Oriental Negros	830	1,224	159	207	....	....
Pampanga	861	568	353	191	....	....
Pangasinan	700	398	512	269	....	....
Rizal	1,680	1,082	1,055	874	....	....
Sulu	113	254	18	85	....	....
Surigao	92	168	77	163	....	....
Tarlac	1,280	897	404	412	....	....
Tayabas	1,468	447	431	66	....	....
Zamboanga	52	12	....	....	....	....
Total	27,282	16,227	15,093	8,192	546	213

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Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1923 [1]—Continued

Provinces	Number of persons vaccinated						Total number of persons injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	121	109	111	256	......	......	629	825	......
Antique	568	560	332	318	23	39	2,583	1,593	142
Bataan	312	102	189	49	......	......	1,019	570	......
Batanes	55	5	16	3	......	......	136	32	......
Batangas	998	437	727	207	......	......	3,052	1,926	......
Bohol	82	41	97	9	......	......	343	327	......
Bulacan	188	51	138	36	7	......	554	380	23
Cagayan	276	390	191	117	......	......	1,789	561	......
Camarines Norte	814	37	169	36	......	......	1,012	427	......
Camarines Sur	1,086	745	523	454	......	......	3,996	1,821	......
Capiz	18	4	......	......	......	......	84	4	......
Cavite	394	165	302	78	......	......	1,780	965	......
Cebu	388	199	141	158	18	......	1,640	726	56
Cotabato	183	80	......	......	......	......	506	......	......
Davao	22	13	9	7	......	......	397	276	......
Ilocos Norte	1,499	1,578	478	587	......	......	6,448	2,534	......
Ilocos Sur	1,523	364	846	208	442	105	4,852	2,495	897
Iloilo	1,218	1,270	1,178	1,006	......	......	5,640	5,212	......
Isabela	224	81	30	19	......	......	615	120	......
Laguna	56	13	44	58	......	......	248	216	......
Lanao	3	1	3	......	......	......	59	16	......
La Union	1,109	923	547	312	......	......	4,637	1,885	......
Leyte	124	17	46	13	......	......	367	177	......
Marinduque	782	564	440	624	......	......	2,744	2,163	......
Masbate	274	302	148	95	......	......	1,560	730	......
Mindoro	195	107	68	46	2	......	656	224	24
Misamis	459	612	255	265	1	3	2,418	1,236	15
Nueva Ecija	888	665	689	585	96	19	3,336	2,988	307
Nueva Vizcaya	268	228	271	215	3	33	1,052	1,159	86
Occidental Negros	259	250	210	181	......	......	875	561	......
Oriental Negros	539	712	156	198	......	......	3,305	720	......
Pampanga	973	578	505	236	......	......	2,980	1,285	......
Pangasinan	633	448	484	328	......	......	2,179	1,593	......
Rizal	1,457	859	1,003	716	......	......	5,078	3,648	......
Sulu	87	170	29	75	......	......	624	207	......
Surigao	106	66	95	64	......	......	432	399	......
Tarlac	902	784	842	338	......	......	3,863	1,496	......
Tayabas	1,025	375	294	48	......	......	3,315	839	......
Zamboanga	22	9	......	......	......	......	95	......	......
Total	19,475	13,914	11,106	7,945	592	199	76,898	42,336	1,550

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Other reports not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF DECEMBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF DECEMBER, 1923

NO CASE AND NO DEATH REPORTED DURING THE MONTH.

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA DURING THE MONTH OF DECEMBER, 1923

	Health district—					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending November, 1923:						
Minor	35	10	28	28	41	142
Sewer	10	54	15	7	5	91
Vacating	....	10	5	2	2	19
Filling	5	2	14	6	3	30
Total	50	76	62	43	51	282
Orders issued during the month:						
Minor	23	9	4	6	5	47
Sewer	....	....	1	1	....	2
Vacating	....	....	....	....	1	1
Filling	2	....	....	....	....	2
Total	25	9	5	7	6	52
Grand total	75	85	67	50	57	384
Orders completed during the month:						
Minor	6	7	15	1	7	36
Sewer	....	2	3	....	1	6
Vacating	....	....	1	....	....	1
Filling	....	1	....	....	....	1
Total	6	10	19	1	8	44
Orders cancelled during the month:						
Minor	....	....	1	....	....	1
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	1	....	1
Total	....	....	1	1	....	2
Orders pending during the month:						
Minor	52	12	16	33	39	152
Sewer	10	52	13	8	4	87
Vacating	....	10	4	2	3	19
Filling	7	1	14	5	3	30
Total	69	75	47	48	49	288
Strong material plans approved:						
New buildings including additions and alterations	8	6	18	26	6	64
Permits for minor building constructions:						
Approved	19	23	25	21	5	93
Disapproved	7	1	2	9	2	21
New buildings completed	19	11	18	18	4	70
Light and mixed material construction:						
Permits approved	1	....	20	34	13	68
Permits disapproved	1	....	1	11	11	24
Total number of building projects passed upon	55	41	84	119	41	340
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	27	28	29	23	14	121
Plumbing projects completed	12	15	16	21	8	72
Premises connected to the sanitary sewer to November, 1923	1,700	2,870	1,082	574	423	6,649
Premises connected during December, 1923	....	3	3	3	2	11
Total	1,700	2,873	1,085	577	425	6,660

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

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[Prepared by Dr. ROSARIO PASTOR, *Senior Surgeon, P. H. S.*]

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SEP 9 1924 Medical Lib

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV JANUARY, 1924 No. 1

I hold the unconquerable belief that Science and Peace will triumph over Ignorance and War, that nations will come together not to destroy but to construct, and that the future belongs to those who accomplish most for suffering humanity.—PASTEUR.

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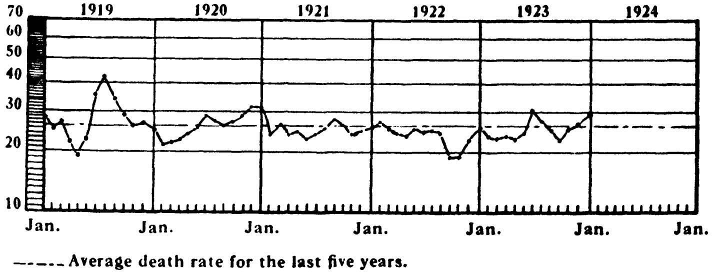
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV JANUARY, 1924 No. 1

THE SECOND PAN-PACIFIC SCIENCE CONGRESS HELD AT MELBOURNE AND SYDNEY

REPORT OF PHILIPPINE HEALTH SERVICE DELEGATE

A telegram, designating me a Delegate to the Second Pan-Pacific Science Congress to be held at Melbourne and Sydney, was received on the morning of July 10. The same telegram ordered me to proceed to Manila by the first available transportation. Accordingly, I left Zamboanga on July 11, and arrived in Manila on the afternoon of the thirteenth on board the S. S. *Aki Maru.* I remained in Manila till the twenty-first, during which time I obtained my passport, credentials, tax-clearance, literature on hookworm, etc. I left Manila at noon of the same day on board the S. S. *Yoshino Maru,* and arrived early in the morning in Zamboanga on the twenty-third. After getting additional baggage, I left at noon of the same day.

Thursday Island, the first Australian port, was reached on the twenty-ninth in the afternoon; and about two hours were spent on land. The place is typically tropical in climate and flora; it is a town of about 1,200 population mostly native, Japanese pearlers, Chinese merchants, and about two hundred of Europeans. Some 25 veteran Filipino pearlers were seen. The town is dirty in many places, the sewage disposal is by the pail system which is poorly constructed and, at most points, is accessible to flies. Drinking water is obtained from the rain by individual households. According to information, the place is comparatively healthy and free from epidemic diseases.

On August 11, the steamer anchored in the harbor of Townsville, but left after a very short stay of one hour so that I was unable to visit the Australian Institute for Tropical Medicine. However, Doctor Cilento, Director of the Institute and who was incharge of the hookworm campaign of the region, said that in Townsville the hookworm index is 1.2 per cent while in the surrounding country, 9.6 per cent. I was also informed that researches in the Institute are along climatological lines.

Brisbane was reached in the morning of August 4. Details of the program of the section of hygiene in Melbourne meeting were obtained from Doctor Sweet, Director of the Australian Hookworm Campaign. A few hours were spent in Brisbane. The city is modern and clean with a population of about 250,000. The climate is subtropical, altho it was quite cold at the time; the flora is very similar to that of the Philippines. The city has no sewage system but one is being built. At present the disposal of night soil is by a pail system which is very satisfactory. All houses have their means of conserving rain-water for their drinking purposes, altho the water supply of the city obtained from the mountain nearby is good. The steamer left Brisbane at 1.30 p. m. of the same day and arrived at Sydney on August 6 at 12.30 p. m.

The Delegates were met by Sir Edgeworth David, Under-Secretary Cambage, Mr. Andrews, and Captain Taylor. To the Delegates a most cordial welcome was extended which was again repeated at the Royal Society Hall two and a half hours later. The Delegates were then conducted to the hotel by Sir Edgeworth David who personally saw to every detail for their accommodation and comfort.

On August 7th (in the morning) I went to the Department of Mines, office of Mr. Cambage, where I was given instructions and transportation facilities. In the afternoon the Delegates visited the Australian Museum.

In the morning of August 8, I interviewed the Director-General of Health of New South Wales and visited the Government Laboratories under his control. Anti-plague campaign work and other health activities were seen. The *echinococcus* disease is prevalent here. In the afternoon, the Coast Hospital was visited. It is a hospital of 600 beds on a large ground by the sea, constructed in pavilions of one story. Some 18 lepers are being cared for. They are well housed in double-room cottages. Each leper occupies a sleeping-room and a living-room. According to information, the ethyl ester treatment is giving no result. I have also been informed that during the outbreak of bubonic plague in Sydney in 1921, the anti-plague serum gave good results and allowed only a very low mortality.

On August 10, at noon, all the Delegates attended the Memorial Service in honor of the late President Harding at St. Andrews Cathedral. At 7 p. m. of the same day, all Delegates departed for Melbourne which they reached at 1 p. m. the next day.

The morning of August 13 was spent in registration, receiving of instructions from Congress Headquarters, and visits to the different departments of Melbourne University. In the afternoon the Department of Bacteriology and Pathology was visited. This Department does all the pathology, sanitary bacteriology, and serum diagnostic work for the State and private practitioners. Research work is being done on soil bacteriology, focal infection of the teeth, etc. At 8 p. m. of the same day the Congress was formally opened by an address of the Governor-General read by the Prime Minister. This was followed by an address of the President of the Congress, Sir David Orme Masson, and by the representatives of Great Britain, the United States of America, Japan, Holland, France, and others.

In the morning of August 14, I attended a joint meeting of the section of Zoölogy, Entomology, and Veterinary Science at the invitation of Dr. Georgina Sweet, Associate Professor of Zoölogy, Melbourne University. I was called upon to discuss parasitological problems in man in the Philippine Islands. The following topics were also discussed in the same meeting:

1. Worm nodule disease in Australian cattle.
2. Hookworm in Australia.
3. Echinococcus disease.
4. Surra in the Philippine Islands.
5. Classifications of lice.

In the afternoon I attended an excursion to the Commonwealth Serum Laboratory, with Doctor Penfold guiding. The institution is large, new, and isolated, with a large area of ground around and is well equipped with modern appliances. The first part visited was the immune-sera department. Briefly, sera are collected by first treating the blood with calcium oxalate to prevent coagulation; the red cells settle to the bottom while the oxalated plasma is pippeted off. The plasma is then treated with calcium chloride whereby the fibrin coagulates and the pure serum is separated. The serum is then filtered thru Chamberland filters and put in ampoules without preservative. The red blood cells is reinjected intravenously into the same horse from where it came. This method of reinjecting the cell into the same horse, according to the Director of the Institute who had done considerable work along this line, enables each horse to produce not less than 400 liters of serum a year. Therefore, if the same method could be followed, there would be an economy in the preparation of immune-sera in the Philippines. Diphtheria anti-toxin is produced in concentrated form by the use of precipitated pseudo-globulin. The toxin used in the preparations is that which has been stored for a year after filtration thru the carbolized filter. They standardize by the use of a 250-gram Guinae pig. The virulence test for diphtheria is made on a Guinea pig with or without anti-toxin. Tuberculin is prepared by the use of six weeks' culture in a very large flask of hycerine bullion. A separate room and special incubators are being used for this purpose alone. The culture is killed and concentrated in a water bath to $\frac{1}{3}$ of the original volume so that $^1/_{10}$ c. c. of the tuberculin will kill the tuberculous Guinea pig inoculated with the homologous strain used in the preparation of the tuberculin. It is said that bovin tuberculosis is found in 25 per cent of the material from the Children's Hospital. The tubercle bacillus is isolated by the anti-formin method on a Dorset medium, and culturally bovin and human strain can easily be differentiated by the scarcity of the growth of the former and the luxuriant growth of the latter. By animal inoculation, bovin tuberculosis grows rapidly and becomes more generalized in rabbits and Guinea pigs than in the human strain.

Pneumococcus typing is being done by bile solubility. Types I, II, III have been observed and ten different types of group IV had been identified. Polyvalent anti-pneumococcus serum is prepared by the use of more bacteria of the predominant type. Their work on influenza showed that the bacillus lives longer on red blood agar, but the growth is scanty; while the growth is profuse on chocolate-color blood agar, but the bacilli die quicker. Intestinal bacteria are studied on McConskey's medium, while meningococci are grown on liver agar. This Institute prepares insulin by macerating pancreas from abattoir in acidulated alcohol. The alcohol is evaporated, then the residue is precipitated and redissolved in water. Its reaction is readjusted to Ph.2. The potency of the insulin is tested by its ability to produce convulsion when injected into a rabbit in two to five minutes. The Institute can take care of 90 patients at present. The preparation of anti-tetanic serum is being done in a separate building. Vaccine virus, pleuro-pneumonia vaccine, Bang's vaccine, and autogenous vaccine are also prepared. Surgical pathology and Wasserman reaction are also done for private practitioners and hospitals. Laboratory technicians for the different government laboratories get their training from this institution. The bottling and packing department is spotlessly clean, well lighted, and ventilated and all workers are in white caps and gowns. The stables are modern, with a cement floor, and all conveniences for handling animals. The animal house is well stocked. This institution is certainly a model for the preparation of biological products.

On August 15, in the morning, the following paper was read in the section of Hygiene:

Hookworm situation in Australia, New Guinea and Papua, by Doctor Sweet, Director of the Hookworm Campaign. (I was called upon to lead the discussion on this paper.)

Thru personal conversation with Doctor Armstrong of Samoa, I gathered that Doctor Lambert International Health Board), working on two condemned criminals, succeeded in expelling trichuris by intramuscular or intravenous injection of chenopodium oil in doses of ½ to 1 c. c. with little or no effect on hookworm. In the afternoon, the Delegates visited the Botanical Gardens.

In the morning of August 16, I visited Saint Ines Private Hospital, Melhrose Intermediate Hospital, Salvation Army Intermediate Hospital, and the Melbourne Hospital. With the Melbourne Hospital is connected the Walter and Eliza Hall Research Laboratory, an endowed institution for research in pathology and bacteriology only. At present, research is being done on the echinococcus disease, which is quiet prevalent.

On August 17, in the morning, the following topics were discussed in the section of Hygiene:

1. "General Survey of the Field of Public Health in the Pacific, Including a Summary of the Replies to a Questionnaire on Health Problems of the Pacific Region," by Doctor Cumpston, Director-General of Health of the Commonwealth of Australia. (It was mentioned here that the questionnaire sent to the Philippine Islands was not answered.)
2. "Noteworthy Causes of Death in Japan," by Professor Toda of Kyoto University.
3. "Experiences with Black Water Fever," by Doctor Johnson, Chief Health Officer of Hongkong.
4. "The Importance of Parasitic Diseases from an Industrial Point of View," by Professor Houghwout, Bureau of Science, Manila, read by me.

August 18 and 19 were spent in an excursion to Marysville with a visit to Doctor McKenzie's Experimental Farm of Anatomy. This farm was originally owned by Doctor McKenzie, but recently given to the Government. It covers an area of 80 acres of forests in which all the indigenous animals of the continent are allowed to live a natural environment so that there is a constant supply of animals for experimental purposes.

On August 28, in the afternoon, the following papers were read in the section of Hygiene:

1. Yellow Fever on the Pacific Littoral and the Risk of Its Introduction into Asia, Australia, and the Pacific Islands.
2. Diseases of Samoa.
3. Hookworm Campaign in Cebu, P. I.
4. The Effect of Carbon Tetrachloride on Intestinal Parasites, especially Hookworm. (Observed in Zamboanga General Hospital.)
5. Leprosy and the Modern Treatment.
6. Leprosy in Nauru Island.
7. Serum in Bacillary Dysentery.

On August 21, in the morning, I attended a joint session on Hygiene with the section of Anthropology and Ethnology. In the afternoon we had an excursion to the Werribee Sewage Farm, 25 miles south of Melbourne. At this place the city sewage is being used to irrigate 13,000 acres of land to grow grass and corn for cattle feed.

Melbourne is a city of about 800,000 inhabitants, beautifully laid out with very wide streets. The water supply is good and a modern sewage system is in operation. Both business and residential sections are clean, except the China town where apparently the Health authorities are not enforcing the regulations in the cleanliness of sidewalks, restaurants, and stores. At the present time, there is an epidemic of measles averaging from 500 to 600 cases a day.

On August 22, the Melbourne session closed at 1 p. m., and at 5 p. m. all the Delegates departed for Sydney which was reached the next day at 10.30 a. m. At 12.15 p. m. the Delegates were formally received by the Lord Mayor of Sydney at the Town Hall. At 2 p. m. there was a registration at Sydney University and a visit to the different departments.

On August 24 at 10 a. m., the official opening of the Congress by the late Sir Walter Davidson, Governor of New South Wales, was made in the Great Hall of the University. At 2 p. m. the section on Hygiene was addressed by the chairman, Professor C. J. Martin (Director of Lister Institute, London) on climate and disease. This address was followed by a paper on natural ventilation and the monthly death rate in Japan by Professor S. Toda.

On August 25 and 26, there was an excursion to Wentworth Fall and Jenolan Caves.

On August 27 at 2 p. m., the section of Hygiene met in joint session with the section of Geography. The following papers were read:

1. Relation of Climate, Weather, and Fat Covering to Metabolism.
2. Energy Consumption of Australian Students.
3. Selection and Migration.

On August 28 at 10 a. m., there was a general meeting of the Congress where the coördination of work in the Pacific was discussed. The plans of the different sections were also submitted. At 2 p. m. a ferry-boat excursion and tea around Sydney harbor were given by the Government of New South Wales.

On August 29 at 9 a. m., I visited the Prince Alfred Hospital where the medical students of the University get their hospital training. The different departments were seen, particularly the laboratories. The hospital has 400 beds. At 2 p. m. the section of Hygiene met in joint session with the section of Entomology and Veterinary Science.

On August 30 at 1 p. m., there was a general meeting in which was discussed the Pacific problems on: (1) Meteorology, (2) Hygiene, (3) Anthropology, (4) Geography. At this meeting, Professor Griffit Taylor, of the Department of Geography at Sydney University, was awarded the David Livingston Medal in recognition of his work in geography, by Dr. N. M. Fenneman, of Cincinnati University in the name of the Geological Society of America. At 2 p. m. the following papers were read in the section of Hygiene:

1. Distribution of Mosquitoes.
2. Dengue and the Stegomaya Problem.
3. Destruction of Insects.
4. Distribution of Diseases among Children in New South Wales.

On August 31 at 10 a. m., there was a general meeting of the Congress with a discussion of Pacific problems, a continuation of the previous days' discussion.

On September 3 at 10 a. m., there was a general meeting of the Congress where the different sections presented resolutions for solving the different problems encountered in the Pacific countries. Doctor Cumpston, Director-General of Health of the Commonwealth, presented the following resolution by the section of Hygiene:

> That the scientific problem of the Pacific, which stands first in order of urgency, is the preservation of the health and life of the native races by the application of the principles of the sciences of preventive Medicine and Anthropology.

This resolution was unanimously approved by the Congress. In the evening, an excursion was had to Hunter River Valley, Maitland, and New Castle districts with a return to Sydney on September 5 at 8.15 p. m.

At 8.55 p. m., on September 6, I left for Broken Hills. After one day's train and 2 days' auto ride thru the barren and desert regions of New South Wales, I arrived at Broken Hills on September 9th, at 9.30 p. m.

On September 10, the whole day was spent in motoring to the surrounding country and the Wombarumbaka water-reservoir. This reservoir is a valley which has been dammed to collect rain-water and supply Broken Hill and other nearby towns. The fly menace in this region is terrible. The flies probably originate from dead animals and sheepdung favored by the warm climate. They are responsible for the extensive infection of the eyes in this region. Typhoid fever in epidemic form was prevalent in Broken Hill before the building of the water-supply. The pail system is in use for the disposal of the night soil.

On September 11, the whole morning was spent in inspecting the North mines, and the aspects of sanitation and ventilation were studied down to a one thousand five hundred and fifty feet level. The temperature at this level is 70° to 75° F. The tunnels are extremely clean and there are excellent cemented water-closets, one for every 20 workers. A water spray is also provided during and after blasting to precipitate ore dust from the air. The afternoon was spent in the Mines Bureau of Medical Inspection, where there was held a conference on Minder's disease (Silicosis) and numerous demonstrations on X-Ray reading of the chest by Dr. Watkins Pitchford of Miner's Phthisis Medical Bureau, Johannesburg, South of Africa; Dr. R. R. Sayers, Chief Surgeon, U. S. Bureau of Mines, Washington; and the local physicians incharge of the Bureau. Then the Broken Hill Hospital was visited where autopsy materials on Silicosis and Miner's phthisis were studied. At 7 p. m. we left Broken Hill for Sydney by way of Adelaide and Melbourne, and we arrived at Sydney on September 14 at 11.30 a. m.

On September 15 at 10.30 a. m., I left Sydney on the s.s. *Saint Albans*.

Brisbane was reached on September 17 at 10 a. m., where I was met by Doctor Sweet, Director of the Australian Hookworm Campaign. I was taken to the offices and laboratories of the Hookworm Campaign and given opportunity to study the management of the campaign. The Australian Hookworm Campaign began work on October 1, 1919, on a five-year program with an agreement between the Commonwealth of Australia, the State of Queensland, and the International Health Board. Later the other states and territories came into the same agreement as Queensland. The agreement was that the campaign would be financed from three sources: the Commonwealth of Australia, the States in which the work is done, and the International Health Board of the Rockefeller Foundation; that £100,000 (₱1,000,000) was to be spent during the five-year campaign; and that the Commonwealth and State agreed to provide for permanent control of Hookworm infection after the campaign so that it would no longer be a health problem in the future. The campaign is at present complete with the survey and the examination and treatment of more than one-quarter of a million people. That the hookworm is a problem in Queensland and the Northern Coast of New South Wales, is certain. A malaria and filaria survey is being conducted at the present time. Altho filariasis does not seem to give prominent symptoms, yet it has been found that no less than 6 per cent of the population of Brisbane is infected.

The steamer left Brisbane at midnight and arrived at Townsville on the twenty-second at 8 a. m., where I was met by Doctor McIntosh of the Australian Institute of Tropical Medicine. The laboratories of the Institute are located in a building next to Townsville Hospital. Here slides obtained in the Filaria-Malaria Campaign are examined. An anti-plague campaign on rats is also being undertaken. There are the departments of entomology, protozoölogy, and serology in this institution, where routine examination and investigation are being done. Most of the work in the Institute is related to tropical diseases. Townsville is a town of about 30,000 people and is typically tropical in climate and vegetation. The sewage disposal is by the pail system, while drinking water is obtained from rain. The streets and private premises are clean.

The steamer left Townsville at 9 p. m. of the same day, and arrived at Sandakan in the morning of October 3. Sanitation in Sandakan is very poor, the streets are dirty, and stagnant water is found all over the low districts, particularly the China town. The water-supply is said to be very poor, and the water is dirty. The night soil disposal is by the pail system.

We left Sandakan at 11 p. m. of the same day and arrived in Manila at 6.30 a. m. on the sixth.

On the ninth at 9 p. m., I left Manila on the s. s. *Filipinas* and arrived at Zamboanga, by way of Pulupandan, Cebu, and Dumaguete, on October 15 at 12.30 p. m.

RECOMMENDATION

In order that the Philippine Health Service can get enough financial support from the Legislature for carrying on the campaigns against the hookworm, malaria, and other epidemic and parasitic diseases, it is urged that the Philippine Health Service authorities enter into a definite agreement with the International Health Board on terms similar to those entered into by the Australian Government.

Respectfully submitted.

(Sgd.) C. MANALANG

SUMMARY OF PAPER ON "LEPROSY WORK IN THE PHILIPPINES" READ AT THE FIFTH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE (SINGAPORE, SEPTEMBER, 1923)

By W. H. Wade

PREVIOUS ACTIVITIES

Little is known of the status of leprosy in the Philippines during the Spanish period. In 1633 the Franciscan friars began to care for local lepers in their general hospital in Manila. In 1785 the San Lazaro Estate was set aside for the establishment of a leper asylum by the Franciscans; the San Lazaro Hospital was built here and the remainder of the site was rented. This fund, together with contributions, supported the Institution.

Two other asylums were established elsewhere, the larger at Cebu. Little is known of the work of these institutions. Comparatively small numbers of cases were cared for. The object of these asylums was solely humanitarian, and no attempt was made by the government to segregate lepers as a measure of sanitation.

SEGREGATION

Early in the American régime Culion Island was selected for a colony with the intention of segregating all lepers to suppress the disease. In spite of various difficulties and some opposition, a start was made and the first lepers were brought in May, 1906. In the intervening years, the institution has grown to the extent of a fair-sized town with more than 5,000 inmates. The institution and the present organization of the medical work is described in an article to appear shortly in the American Journal of Tropical Medicine.

Opinion in the Philippines as to segregation is by no means unanimously in favor of the present system. There is considerable agitation against a single colony on an isolated island in favor of several hospital asylums at different points accessible to the friends of the lepers. The writer regrets the agitation because at present financial limitations preclude the possibility of any change involving capital expenditures or increased cost of maintenance, and agitation tends to discourage early cases from presenting themselves.

TREATMENT WORK

Little systematic treatment has been carried on at Culion until recently. The Mercado-Heiser formula was used by a nurse; but as prepared till recently, it was very irritating. It is felt that the therapeutic value of the improved mixture as now prepared with neutral refined oil should be determined in comparison with the newer preparations.

The inception and organization of the present "treatment campaign" has been dealt with in the paper referred to.

TREATMENTS USED

The chaulmoogra ethyl-esters are the principal medicament used since the intravenous injections of Rogers' preparations were discontinued late in 1921. Injections are given intramuscularly and, in all but a comparatively small group, once a week. We have not added, for routine work, any substance that modifies the nature of the medicament, as do the creosote and camphor in Muir's modification of Jeanselmee's formula. However, iodine has been used extensively, at first in 2 per cent concentration as used at Hawaii, but 0.5 per cent as has now been adopted because it is equally useful and slightly less irritating. The only apparent virtue of iodine is to reduce irritation by the ethyl-esters; it seems to have no influence on the disease.

Cod liver ethyl-esters, while not inactive, have proved less useful than the corresponding chaulmoogra product.

A few small group have recently been put on butyl, propyl, and amyl esters of chaulmoogra prepared by Doctor Perkins. The purpose is primarily to determine a less irritating form of the oils. The ethyl-esters undeniably irritate, not only the local tissues to a slight extent but also predispose to pulmonary tuberculosis and apparently kidney troubles. Ethyl-esters of certain other oils are also being tried out.

Tartar emetic injections have been tried for the treatment of ulcerations in advanced cases. This treatment not only proved almost useless, contrary to the original report of Cawston (and the findings of Doctor Travers of Kuala Lumpur as reported at the Congress), but seriously irritate pulmonary and renal lesions. These observations are in press (Doctors Rodriguez and Eubanas, *Philippine Journal of Science*).

Adjuvant medication by mouth was not begun at the outset, as it seemed impracticable. However, an experiment was carried on to ascertain the value of creosote and camphor as in Muir's formula, in addition to the ethyl-esters creosote pills, and creosoted ethyl-esters gave better results than controls. Creosote and camphor were not quite as good; we are opposed to large doses of camphor. We have now obtained a tablet-making machine and will give iron, quinine, and strychnine, or arsenic, iron and strychnine, or creosote by mouth to all cases under treatment. We are now using creosoted ethyl-esters (10 per cent) on a large scale.

A physical-therapy department has now been established, with a medium (Universal Junior) X-ray outfit, a water-cooled ultraviolet lamp, a high-frequency machine for diathermy, cataphorasis, etc., and a galvanic, etc., current machine. Fluoroscopic diagnosis of tuberculosis and bone studies will be emphasized, but the principal object is to determine the value of extensive X-ray and ultraviolet applications, *as adjuvants* to the regular treatment.

CASES UNDER TREATMENT

Data on this work and treatment results as of March 31, 1923, the last (second) semi-annual clinic reports analyzed. (The reports of September 30, 1923, will be used as basis of detailed publications.)

Number.—In round numbers, 4,200 were treated in the six months referred to. Since then some 700 dropped for tuberculosis, nephritis, etc., and some 300 new ones started.

Sex.—Of 3,975 tabulated, 65.1 per cent were males and 34.9 females.

Age.—Wide range, 70 per cent between 15 and 40. No greatly predominating group. The smallest, 35–40 years, is 9.8 per cent of whole, largest, 20–25, 17.7 per cent.

Duration.—Of 3,852 tabulated, only 15 were said to be less than 1 year, 10 more than 30 years, of whom 5 were more than 40. Largest group 5 to 7 years, next largest 3 to 5 and 7 to 10. Rough average, 8 to 8.5 years.

Types.—As classified here, after somewhat careful examination for minor anæsthesia, 22 per cent pure cutaneous, 69 per cent mixed, 9 per cent pure neutral.

Type and duration.—Pure cutaneous become mixed, and in those surviving long enough, mixed tend to overcome the cutaneous lesions.

RESULTS OF TREATMENT

Gross results.—Of 4,035 cases of all kinds and degrees of advancement, under all varieties of treatment, 53.3 per cent are reported improved, 36 per cent stationary (totalling 89.3 per cent at least not worse), worse or dead 10.7 per cent.

The improved include 4.0 per cent markedly improved, 11.1 per cent moderately improved, 38.2 slightly improved (total 53.3). Or, of the improved 7.5 per cent are markedly, 20.9 per cent slightly, 71.7 but slightly.

Various important factors modify the gross results:

Sex.—Females have a slight advantage, 55 per cent as compared with 52 per cent of males.

Age.—There are distinct differences in the different age groups. The sex by age analysis is interesting. In short, the figures indicate that less improvement is had during the periods corresponding to greatest sexual activity and at the menopouse.

Duration.—This has a marked influence, with the highest figure, 68 per cent, in 261 cases of 2 to 3 years, in contrast with the low figure, 43 per cent, in 266 of 15 to 20 years. A corresponding variation in degree of improvement is seen.

Type.—In view of the relation of duration to type, it is not surprising to find pure cutaneous giving the best, 62 per cent; mixed less, 49 per cent; and neutrals least, 39 per cent.

Time treated.—Naturally important. Of the 35 per cent that had been treated for more than one year, 75 per cent were reported improved; of those treated fos less than one year, 41 per cent. However, many of the former were selected favorable cases, and most of the latter are being treated by men who show themselves somewhat more conservative in recording improvement.

The number of injections given during a period and the total amount of the drug administered are influenced by various circumstances. Irritation by the drug, complications real or imagined, attitude of the patient and of the physician are all important. On the whole, not more than two-thirds of the cases are injected each week. Some physicians give average doses of 3 c. c. or less, some approach 4 c. c.

One-half of the cases received 30 c. c. or less in the period, whereas the minimal desired amount was 60 c. c. Only 8.7 per cent received more than 60 c. c. Of those getting 30 c. c. or less, 37 per cent are reported improved. Of those receiving more than 40 c. c. (33 per cent of all), 73 per cent improved. The degree of improvement varied correspondingly.

COMPARISON OF PREPARATIONS

The iodized showed absolutely no advantage over the plain in groups receiving equal total amounts, but did show a slight gross advantage because somewhat larger amounts were given.

COMPLICATIONS

Pulmonary tuberculosis is very common here and is an important factor in the work, as pthisical cases must be treated cautiously, when at all, with the ethyl-esters. The Mercado mixture seems less injurious. Nephritis is common, and there is evidence that the treatment is injurious to the kidneys. (Note.—Of some 750 unselected cases examined during October, 95 per cent were reported by the laboratory as showing faint traces or more of albumen, and very many specimens contained casts.)

CONCLUSIONS

No definite conclusions on the value or practicability of the treatment as carried on in this colony will be permissible for another two years, at least. The present total figures are not discouraging, when all factors are considered. It is evident that every possible influence must be concentrated, and regular adjuvant medication will probably be helpful. Whether modern X-ray and ultra-violet ray therapy will prove of benefit is to be determined.

If, however, it should be found that wholesale treatment of all types of cases the colony system is not productive of adequate results, some other plan of procedure must be considered.

MISCELLANEOUS

ANTI-LEPROTIC TREATMENT

During the month ending December 15, 1923, there were 342 cases under anti-leprotic treatment at San Lazaro Hospital. Two cases reserved certificate of discharge; seven cases were given certificate of parole, one died, and four cases became negative. Three cases were brought from Culion Leper Colony.

FIRST MINDANAO HEALTH OFFICERS' ASSEMBLY

The First Mindanao Health Officers' Assembly was opened on December 17, 1923, with the Provincial Governor of Zamboanga, the Ex-Senator Teopisto Guingona, Drs. Jacobo Fajardo, Chief of the Division of Provincial Sanitation, and Eusebio Aguilar, District Health Officer of the province as speakers. Other provincial and municipal officials were present; also 44 health officers, one nurse from San Lazaro Hospital, one public welfare worker, and one Red Cross worker. The Provinces of Samar, Leyte, Capiz, Iloilo, Cebu, Oriental Negros, Occidental Negros, Bohol, Surigao, Agusan, Zamboanga, Davao, Cotabato, and Manila were represented. The whole conference lasted for six days. During the business session, some 32 resolutions were passed by the health delegates.

The health delegates visited the typical Moro barrio of Taluksangay, about twenty kilometers from the City of Zamboanga. In that barrio, the clean streets, the Antipolo System of toilets, and the municipal district dispensary were seen with an admiration of every visitor. The water reservoir at Pasonanca was also among those visited. This water reservoir beats that of the City of Manila in the purity of the water. The water is brought from the gorge of the Tumagos River 3 kilometers of 30-inch concrete pipe to a reservoir (capacity 600,000 gallons) 6 kilometers from the city and furnishes water for the distribution system at 60 pounds hydrant pressure. The health delegates also visited the public market at Zamboanga, having been attracted by its cleanliness in every way, and attended the Baby Contest in which hundreds of mothers and babies were present.

At the closing of the Assembly, a banquet was given on December 21 attended by Major Fletcher and other U. S. Army officers, Colonel Waloe of the Bureau of Constabulary, Doctor Fajardo of the Philippine Health Service, the Honorable Provincial Governor Saguin and other authorities and all the health delegates. Drs. Eusebio Aguilar, Teofilo Corpus, Anatolio Dasmariñas, Cesar Mercader, and Ex-Representative Martinez were the speakers.

HEALTH OFFICIALS GOING TO CULION (JANUARY 3, 1924)

Doctor De Jesus, Director of Health, Doctors Ocampo and Albert of the Council of Hygiene, Doctors Bantug and Mencias and Mr. Tianco of the

Philippine Health Service will leave on the s. s. *Polillo* this afternoon at 2 o'clock to investigate the health condition of the Culion Leper Colony. They will return next Sunday.

DOCTOR VILLAFRANCA BACK FROM INSPECTION

Doctor Villafranca, Chief of the Office of General Inspection of the Philippine Health Service, Manila, has recently returned from inspection of the municipalities of Rizal.

He reports that with the coöperation of the municipal and provincial officers, the District Health Officer, and the Presidents of the Sanitary Divisions have programs of educational health conferences prepared for all infected towns and barrios. In the barrios of the municipalities of Binangonan, Cardona, and Morong, which are free from anthrax, Doctor del Rosario held 35 public conferences. The last cases and deaths due to anthrax were registered during November 19 and 20, 1923.

DOCTOR FAJARDO BACK FROM SOUTH

Doctor Fajardo, Chief of the Division of Provincial Sanitation of the Philippine Health Service, has returned on the s. s. *Lisbon* on January 3, 1924. He attended the First Mindanao Health Officers' Assembly, held at Zamboanga.

INTESTINAL PARASITISM IN ALBAY

In the preliminary investigation on intestinal parasitism of the Province of Albay, it has been found that of the 750 persons examined, 20 per cent have hookworm, and 76 per cent ascaris. The municipalities of Albay, Bacacay, Camalig, Daraga, Guinobatan, Jovellar, Libog, Ligao, Libon, Malilipot, Malinao, Oas, Polangui, Tabaco and Tiwi were surveyed.

HEALTH SERVICE OFFICIALS RETURNED FROM CULION

Doctor De Jesus, Director of Health, Doctors Bantug and Mencias and Mr. Tianco of the Philippine Health Service returned from Culion on the s. s. *Polillo* on January 6, 1924.

REPORT OF SANITARY ENGINEERING

Mr. Mañosa, Acting Chief of the Division of Sanitary Engineering, Philippine Health Service, reports that for the month of December last, 64 strong material plans, 93 minor building construction, and 68 light and mixed material construction were approved in the City of Manila. A total of 121 plumbing permits were issued and 72 plumbing projects completed.

MALARIA CONTROL IN PAMPANGA

Mr. Tiedeman of the Rockefeller Foundation working in Pampanga in coöperation with the Philippine Health Service, reports on January 7 that the malaria survey has continued along the usual lines during the past month.

He also reports that all sorts of difficulties have been encountered in getting the experiment running on a sound basis. Labor is constantly shifting and the men seem to naturally fight shy of medicines of all sorts. A fresh start has been made, and thru the means of a bonus offered by the management, the work is now progressing smoothly.

The observation of mosquito breeding to date seem to indicate that there is a seasonal prevalence of certain species which may have its effect on malaria incidence. It will require much more extended observations, of course, to establish any relation of this sort.

In connection with the mosquito control work, a supply of Paris Green is now on hand and its practical application as a larvacide will be taken up soon. Latest reports from the States indicate that it has been very successful there. The mosquito fish will also be introduced in the streams by providing trap retreats to protect it from the larger fish.

TYPHOID CASES IN MANILA

Doctor Hernando, Chief of the Division of Metropolitan Sanitation of the Philippine Health Service, reports that for the month of December, 1923, 122 cases of typhoid fever occurred in the City of Manila, 98 of which were residents and 24 non-residents. Fifty of these cases used the artesian water, 23 the city water, and 49 the source of the drinking water was not determined. Forty cases were vaccinated with anti-typhoid vaccines, 62 were not vaccinated, and in 46 the history of vaccination against this disease was not obtained.

MEDICAL INSPECTION OF SCHOOLS

Doctor Arenas, Medical Officer of the Meisic Health Station and School Inspector north of the Pasig River, reports that 20,497 school-children were inspected in 1923, 14,975 of whom were found to have defects of some kind. Among the diseases found, 3,682 were chronic conjunctivitis, 11,357 dental caries, 237 hypertrophied tonsils, 113 scabies, 510 itches, and 536 trachoma.

He also reports that a total of 5,167 cases with teeth defects were treated. Two hundred eighty-eight received gutta-percha fillings; 126 cement fillings; 265 amalgam fillings; 1,680 cleaning; and 1,324 extractions.

COURSE FOR ASSISTANT SANITARY INSPECTORS (JANUARY 12, 1924)

The twenty-eight students of the Course for Sanitary Inspectors of the Philippine Health Service completed their theoretical work at San Lazaro Hospital and the University of the Philippines. Since January 2, ten were directed to work in the laboratory department of the San Lazaro Hospital, six to Tondo Health Station, six to Meisic Health Station, and six to Sampaloc Health Station for their practical work. This work will be in rotation and will last until the month of March.

MEETING OF CITY HEALTH OFFICERS

In the regular meeting held at the office of the Chief of the Division of Metropolitan Sanitation on January 5, the regulations governing the sanitary maintenance of restaurants, carinderias, ice-cream parlors, etc., in the Carnival City were approved. The sterilization of milk heretofore performed at San Lazaro Hospital will now be done in the Health Stations. Likewise, the sanitary permits or the approval of licenses for conducting business which has some relation to public health, should not be granted, until the place, building, or premises in which such business is to be conducted, fulfill first all the sanitary requirements necessary.

HEALTH CONDITIONS IN BICOL PROVINCES EXCELLENT

Doctor Laygo, Assistant Chief of the Division of Provincial Sanitation of the Philippine Health Service, in his inspection from the south, inspected the municipalities of Daet, Indan, Talisay, San Vicente, Labo, and Basud in Camarines Norte; Naga, Magarao, Calabanga, Pili, Tigaon, Goa, San Jose, Lagonoy, Pasacao, Baao, Iriga, Buhi, Bato, and Nabua in Camarines Sur; and Albay, Tiwi, Malinao, Tabaco, Malilipot, Bacacay, Libog, Daraga, Camalig, Guinobatan, Ligao, Oas, and Pulupandan in Albay.

Doctor Laygo reports that the general health conditions found in the three provinces were excellent, with the exception of those in Oas and Polangui, Albay Province, where dysentery is endemic, those of San Jose and Pili in Camarines Sur, and those of Talisay and Indan in Camarines Norte, where malaria is prevalent. So excellent are the general health conditions in certain towns in Albay and Camarines Sur as to have enabled our local health officers to show death rate records as low as 16 per 1,000 and infant mortality rates as low as 120 per 1,000 births.

REPORT OF EXAMINING BOARD FOR MASSEURS

Dr. Felipe Arenas, Chairman of the Examining Board of Masseurs, reports that during the year 1923, three examinations for masseurs were held in the City of Manila. Eleven candidates took the examination, all of whom passed except one.

The names of those passed were Messrs. Felix Marquez, Y. Suito, Pascual Denero, J. Murayama, Itaro Hirayama, Yusio Kubo, Severino Pulga, and Mrs. Rosa Magno, Iwa Marisaki, and Kuma Hoduma.

EXAMINATION FOR EMBALMING

The next examination for Embalmers will be held on March 14, 1924. The applicants will send their applications to the Philippine Health Service with all necessary credentials not later than one week before the date of the examination.

SANITATION IN BILIBID HOSPITAL

Dr. Samuel Tietze, Chief of the Prison Sanitation Division, reports that during the month of December, 1923, the general sanitary condition of the Bilibid Hospital, Manila, is good. The grounds are well drained. The drains are made of cement, sufficiently wide. All drains in this institution empty into a big canal back of stockade.

The buildings of this hospital are well ventilated with large hinged windows, admitting plenty of light and air. The prisoners are quartered in dormitories which are long-stone buildings with cement floors, containing iron beds, fixed to the floor. There is sufficient number of toilets for each dormitory, flushed with city water, which is drained by the closed canals. Each brigade is provided with sufficient covered garbage cans, which are carried away every evening and burned in the incinerator located in the stockade.

The anti-mosquito campaign is carried on by oiling all canals properly, cutting down weeds and underbrush in the stockade, and disposing of all empty cans. The fly campaign is carried on by seeing that garbage cans are tightly covered. The toilet section of each brigade is thoroughly cleaned with lysol solution, all kitchens properly screened and food-stuffs properly covered. The manures where horses are kept are promptly removed and buried in the ground of stockade for future use. The bedbugs are killed by having all beds and bedding immersed in a properly concentrated lysol and allowed to dry in the sun.

The water is obtained from the city, sufficiently boiled, collected in barrels tightly sealed, and kept in dormitories. These barrels are thoroughly cleaned before placing the water therein. The water is examined bacteriologically twice a year or oftener in the approach of any epidemic to eliminate any possibility of contact during each voyage from the boiler to the different dormitories.

The food of prisoners is well-balanced. There have been issued during the month 7,667 rations and the cost of per capita ration is ₱0.21. The value of subsistence on hand for December amounts to ₱159.23.

Each prisoner is supplied with three pairs of outer clothings, blanket, mat, and flat wide bamboo hat. Inmates are required to take shower baths daily.

The amusement consists of movies, base-ball, music, various religious services conducted by different denominations, and literary-musical entertainments conducted by the inmates of the Educational Department. Practically, all prisoners go thru the form of calisthenics once a day for ten minutes, assisted by music.

The prisoners are required, if possible, to occupy themselves at some trade. The prison contains shops for this purpose, such as machinery and kitchen departments, carpentry and painting shops, and agriculture and farming.

A number of 1,426 treatments and 350 laboratory examinations were done during the month.

CONTAMINATION OF ARTESIAN WELLS (JANUARY 17, 1924)

The Philippine Health Service desires to make it publicly known that the artesian wells that were ordered to be closed were contaminated with bacillus coli and not with cholera or dysentery germs as some local papers have published.

Beginning the month of December, the service in coöperation with Doctor Leach of the Rockefeller Foundation and the Bureau of Science started an investigation of the purity of the water of the artesian wells in the city and the neighboring municipalities. Bacteriological examinations of these sources revealed contamination with bacillus coli communis and not with cholera and dysentery germs.

The bacillus coli is normally found in the intestines of men and animals and its presence in water indicates a contamination with fecal matter. The germs of typhoid fever, cholera, and dysentery are also found in human fecal matter. Since 1917, the mortality rate of typhoid fever in the City of Manila has not gone below 60 deaths per 10,000 inhabitants. This suggests possible water contamination.

In determining any possible contamination, a coloring solution was used. A little of the solution was spread at the junction between the tube and pump of each well and on the ground nearby. The result was that in seven artesian wells in the city, three in Pasay, one in San Pedro Makati, and four in San Juan del Monte, which were experimented, the water colored with the solution appeared from two minutes to ten hours. This proves a direct infiltration from the surface of the ground to the interior of the well.

Contaminated water from artesian wells and that distributed by water-vendors who do not have the necessary permit from the City Health Stations should not be used for drinking purposes. Contaminated artesian wells are: (1) Calle Muralla (corner Victoria and Muralla, Intramuros); (2) Plaza Guipit (Sampaloc); (3) Teresa (Sampaloc); (4) Blumentritt (Tondo); (5) Anak n̄g Bayan (Paco); (6) Plaza Miranda (Quiapo); (7) Bustillos (Sampaloc); (8) Andalucia (Sta. Cruz); (9) Estado (Trozo). Suspected artesian wells are: (1) Sanitary Steam Laundry (Sampaloc); (2) Del Pan (Sta. Cruz); (3) Paco Market (Paco); (4) O'Donnel (Sta. Cruz); (5) La Humildad (corner Del Pan and Lasu); (6) Germinal Tobacco Factory; (7) Dagupan (Tutuban Station). Safe artesian wells are: (1) Cold Storage; (2) Bureau of Science; (3) San Andres; (4) Eternberg Hospital; (5) Manila Hotel; (6) Balicbalic; (7) La Rosario; (8) San Lazaro Hospital; (9) Antonio Rivera; (10) Moriones; and (11) Watson and Company.

Other artesian wells in the city are still under experiments. The sale and distribution of the water of the following artesian wells in the neighboring municipalities which have been prohibited are: Pasay: (1) Calle Dominga; (2) Aurora; and (3) Leveriza. San Pedro Makati: (1) P. P. Roxas; (2) Olimpia along Reformatory Road; (3) Along Manila-Rizal Road in Guadalupe Viejo. San Juan del Monte: (1) Block No. 11; (2) P. B. Artesian Well; (3) Along San Pedro Street; and (4) Blumentritt.

The water from the main City Water Supply is free from contamination. The only objection is that it does not become potable when it is turbid. The experiments on the subject of water are being continued, and the public will be informed accordingly from time to time.

MILK STERILIZATION

The Philippine Health Service started last month the sterilization of all milk sold in the City of Manila in order to control typhoid fever.

The milk was formerly sterilized at San Lazaro Hospital, but since January 14, the work has been extended in Intramuros, Meisic, Tondo, and Sampaloc Health Stations. The sterilization begins at 3.30 a. m. daily and all sterilized milk bottles bear the date of sterilization and the name of the person who takes charge of the work.

In order to safeguard public health, the public is requested not to buy milk in bottle which does not bear the seal that it has been sterilized. The Philippine Health Service is doing all it can to safeguard the health of the people in Manila and the provinces, and this work will fail if the public will not closely coöperate.

REPORT ON THE DISTRIBUTION OF ASSORTED VACCINES AND SERA

Doctor Mencias, Acting Chief, Office of Property of the Philippine Health Service, reports that during the month of December the following quantities of vaccines and sera were distributed in Manila and in the provinces as follows: Anti-diphtheritic serum 460,000 units; anti-dysenteric serum 102 ampules; anti-tetanic serum 167,000 units; gonococcus vaccine 50 ampules; cholera vaccine 6,990 c. c.; mixed typhoid cholera vaccine 38,640 c. c.; typhoid vaccine 21,990 c. c.; fresh vaccine virus 230,100 units; and dried vaccine virus 30,400 units. The total cost is ₱13,402.

HEALTHMOBILE

Doctor Raquel, District Health Officer of Cavite, reports that the healthmobile of the Philippine Health Service was demonstrated in the municipalities of San Roque, Cavite, and Caridad from December 28 to 31, 1923, with a big attendance.

YAWS IN TARLAC

The District Health Officer of Tarlac reports that during the month of December, 1923, 20 yaws cases received intravenous injections of neosalvarsan, 12 of whom were males and 8 females; and 17 children and 3 adults.

PUBLIC DISPENSARIES IN BUKIDNON

Doctor Toribio, District Health Officer of Bukidnon, reports that for the month of November, 1923, the municipalities of Malaybalay, Impasugong, Tankulan, Talacag, Malitbog, Mailag, and Maramag registered 262 cases with 661 treatments.

DYSENTERY IN LEYTE

Dysentery has reappeared in the municipality of Ormoc in the Province of Leyte. Doctor Kierulf, District Health Inspector of the Philippine Health Service, who is now conducting the dysentery campaign in the locality, reports that dysentery started from the barrio of Malunod, 6 kilometers from Ormoc, where the first death of dysentery was registered. The first appearance of the disease was in July and practically disappeared in October last, reappearing in December. During the week ending January 5, 1924, 38 sitios and barrios are reported infected.

Doctor Kierulf reports that the faulty sewage disposal and contaminated drinking water are the causes of the epidemic. There are artesian wells, but the improper sewage disposal may easily pollute them.

The infected municipality of Ormoc has been divided into five districts, each under the charge of a medical officer, and a less infected district under a trained sanitary inspector. The medical officers have under their command three municipal sanitary inspectors and two constabulary soldiers, the former takes charge of two or four sitios and the latter handles cases that disobey sanitary measures. The medical officers inspect the work of the sanitary inspectors, and the District Health Inspector and District Health Officer supervise all activities. Hospitalization has been planned in places where there exists the most number of cases.

The municipal council of Ormoc appropriated ₱500 for the campaign, and appointed 22 temporary sanitary inspectors to be paid from the municipal funds. It is hoped that the coöperation shown by the municipal officials will continue thruout the campaign.

SANITATION IN COTABATO

Doctor Roque, District Health Officer of Cotabato, reports that during the month of December of last year influenza has declined but not entirely checked up in the hilly municipal districts of Banisilan, Kitubud, and Wao.

The districts of Dagoma, Maganoy, Dulawan, Pikit-Pagalungan, and Silik are free.

In Buaya and Glan malaria is predominant. The campaign against the disease cannot be pushed on extensively for lack of funds. The Provincial Board of the province cannot give their full support for the same reason.

The dysentery at Camp Tibawan has been practically controlled. The yaws clinics continually receive more Mohammedan cases every day. During this month out of a total of 277 yaws cases that were given intravenous injections of neosalvarsan, 233 are Non-Christians.

The total collection for the month is ₱663.22 as against ₱414.33 during the month of November. There were also 94 laboratory examinations made.

LEPROSY TREATMENT IN CULION

Last December, several local newspapers published an article with regard to the deaths of ten lepers in the Culion Leper Colony, following treatment with a certain drug called tartar emetic. On the way of explanations, the following excerpts from the letter of Doctor Wade, Acting Chief Physician of the Colony, may ameliorate any unfavorable impression on the subject:

In 1920 and 1921, Cawston of Natal published three notes on the use of antimony preparations, one of them is tartar emetic, in advanced cases of leprosy, claiming excellent results. These findings are confirmed by Wildish in 1922.

As a result of these reports confirmatory observations were undertaken on a small scale in Culion. Thirty patients were given the tartar emetic, in properly prepared solutions, the observation extending over a total of six months. New methods have been tried out on small groups as a matter of caution. The implication that this was only for "experimenting" purposes in the ordinarily accepted sense of the term is wholly unjustified.

During this time favorable effects were observed in the ulcerations of several of the cases. At first the physician felt decidedly encouraged. Unfortunately later and in spite of care in using the drug other effects were observed such as kidney and lung complications, and diarrhœa was observed in some atho only comparatively small doses were given.

Of the thirty cases given with tartar emetic, six died within six months. One other case, of a group of twelve receiving the drug in the form of Castellani's yaws mixture, also died. The statement, therefore, that ten died is an unjustified exaggeration.

These treated cases that died were all bed-ridden and in the later stages of leprosy, some with complications. It should be realized that the expectation of life in these cases was very short, and that the medication was given with the hope that this would be prolonged.

It should also be understood that the preparations used are in no way unusual. They have long been used for other diseases, in larger doses than they were used in Culion. The results could not have been foreseen from such previous experience. They were not due to unintelligent or reckless use of the drugs.

Doctor Wade further states that chaulmoogra ethyl-esters are believed to be better than anything heretofore available. Of 4,067 cases treated up to September 20, 1922, 56 per cent had improved, and 36 per cent were stationary, totalling 92 per cent of this large number in whom the disease had apparently been arrested or better as a result of the work.

TO THE PUBLIC

The Philippine Health Service requests the physicians and the public to report to the nearest health station by writing, by phone, or personally as early as possible all cases of measles, influenza, whooping cough, and all respiratory diseases which may come to their notice. This is done in order that the service may be able to give the public all benefit either for the sick and for the protection of the healthy.

The mortality from respiratory diseases is common in this part of the year and in order to prevent the spread of any epidemic disease, the Philippine Health Service requests the physicians and the public all coöperation on this matter.

All persons who are unable to pay the services of a private physician may go to the Medical Officers incharge of Health Stations, who will attend them properly. The health service is willing to do all it can with the coöperation of the public, and it is necessary that these cases are reported to the service at the beginning of the disease.

YAWS CLINIC IN RIZAL

Doctor Limjoco, District Health Officer of the Province of Rizal, reports that during the month of December, 1923, 135 persons received intravenous neosalvarsan injections, of whom 70 are children and 65 adults; 54 females and 81 males.

These yaws cases were in the various municipalities of the province as follows: Cardona, 22; Binangonan, 61; Parañaque, 22; Muntinlupa, 11; Pasay, 5; Caloocan, 5; Las Piñas, 4; Pila, 3; and Pateros, 2.

LUBUAGAN HOSPITAL

Doctor Peñalosa, Sub-District Health Officer, Lubuagan, Kalinga, Mountain Province, reports that during the last quarter of last year 128 patients were admitted in the hospital. A total of 332 prescriptions were filled; 4 major operations and 34 minor operations were performed. A total of 107 laboratory examinations were done.

ALBAY ANNUAL HEALTH REPORT

Doctor Richmond, District Health Officer of Albay, has submitted his annual report for the year 1923 to the Director of Health.

Doctor Richmond states in his report that the general death rate in his district is lower than in 1922, being but 17.67 as against 26.94 per 1,000 population for the past five years. The infant mortality is 104.31 as compared with 161.07 per 1,000 births for the last five years. This rate is probably one of the lowest in the Philippines and compare favorably with that of the United States. About five years ago there were three times as many deaths among babies as there are to-day, and this present reduction is largely due to the health educational campaign that has been waged by the health personnel, with the coöperation of the Office of the Public Welfare Commissioner.

With the exception of the sub-province of Catanduanes, the general sanitary condition of the province was good, there having been no epidemics and comparatively little disease. However, in nearly all of the seven towns of Catanduanes, there were registered some cases of measles, whooping-cough, and dysentery, mostly among children.

The 24 dispensaries of the whole province treated 16,497 patients, besides 1,241 that were treated in the out-clinic of the provincial hospital and 603 that were admitted in the hospital as patients. There was an increase of 65 per cent in the total number of sick taken care of outside of the hospital and an increase of 50 per cent of patients admitted in hospital as compared with 1922.

ANNUAL REPORT OF IWAHIG PENAL COLONY
(JANUARY 30, 1924)

Doctor Aberin, Resident Physician of the Iwahig Penal Colony, submits his annual report of the hospitals in the colony for 1923. He states that malaria incidence had decreased considerably in 1922 and not a single case was admitted in the hospital in 1923, altho some were treated at the dispensary.

Of the 130 patients admitted in the hospital, 90 were discharged and 37 died which is less than that of last year. Five major operations, 39 minor operations, and 5,269 dressings were performed. A total of 3,080 laboratory examinations were done.

A total of 4,636 prescriptions were filled for the inmates and their families and 1,012 for the employees and outsiders.

The water-supply of the central colony comes from a reservoir built upon the mountains. The water is conveyed to the houses by means of galvanized iron pipes. The water for drinking purposes in the whole colony is boiled and stored in galvanized iron tanks provided with faucets.

The houses are either provided with flush system or with pails. The garbage is collected daily by one cart.

ASSISTANT SANITARY INSPECTOR (PROMOTIONAL) EXAMINATION

The Bureau of Sivil Service announces a promotional examination for Assistant Sanitary Inspector in English and Spanish to be held in Manila and in the provinces on March 8, 1924.

Requirements for admission.—Only those who have had at least *five years* of experience as assistant sanitary inspector in the Government service and who are actually employed as such will be admitted to this examination.

Subjects and weights.—The subjects of the examination and their relative weights are:

Practical questions	50
Experience	50
	100

Application form.—The applications should be filed on Form 2. No. blanks in Spanish are available, but applicants may use the forms in English and fill them out in Spanish.

Time limit for filing applications.—Attention is invited to the fact that no person will be admitted to this examination who has not filed a properly completed application with the Bureau of Civil Service at least one week before the date of the examination for Manila applicants, and within the time limit as announced by the same Bureau for provincial applicants.

GENERAL STATISTICS

[Unless otherwise stated these statistics are for the month of January, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health district—	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

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[1] Estimated on the basis of last figure published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JANUARY, 1924

Date	Pressure (mean)[1]	Temperature						
		In shade[2]					Underground	
							0.50 m	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	763.09	23.5	30.1	10	18.0	5	26.4	26.7
11-20	61.50	24.4	31.7	20	18.3	15	26.7	27.0
21-31	62.62	24.7	32.2	29	19.2	21	27.0	27.3

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	80.7	90.7	7	75.2	2
11-20	79.7	90.1	12	74.9	17
21-31	79.1	84.2	23	72.7	31

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer[2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	NE	922.0	130.0	6	27.0	4.0	5
11-20	E quad.	1,494.0	178.0	19	40.7	5.5	19
21-31	NE	1,557.0	247.0	31	37.5	6.2	31

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	26 15	6 05	5	11.8	4
11-20	71 20	9 25	20	35.7	2
21-31	52 50	9 20	31	9.1	4

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	8	3	11	41.35
Filipinos	646	603	1,249	52.23
Spaniards	3	2	5	30.13
Other Europeans	....	1	1	10.46
Chinese	25	38	63	41.57
All others	4	4	8	43.12
Total and average	686	651	1,337	51.14

BIRTHS BY DISTRICTS

Health district	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	145	105	250	9	5	14	264	82.13
No. 2, Meisic	96	99	195	9	13	22	217	24.23
No. 4, Sampaloc	115	99	214	9	10	19	233	54.91
No. 5, Tondo	204	197	401	4	17	21	422	60.88
No. 6, Paco	92	99	191	3	7	10	201	71.60
Total	652	599	1,251	34	52	86	1,337	51.14

Number of births attended by physicians, living, 337; stillbirths, 27.
Number of births attended by midwives, living, 114; stillbirths, 2.
Number of births attended by family, living, 886; stillbirths, 18.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	3	....	3	11.28
Filipinos	388	347	735	30.74
Spaniards	....	3	3	18.08
Other Europeans	3	....	3	31.39
Chinese	17	4	21	13.86
All Others	....	2	2	10.78
Total and average	411	356	767	29.34

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	125	88
Divorced	....	....
Widowed	33	59
Single	315	262
Condition not stated	3	1
Total	476	410
Grand total	886	

Stillbirths	47
Number of deaths with medical attendance	427
Number of deaths without medical attendance	459

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Age	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	40	29	....	....	69
30 days to under 1 year	94	83	26	21	224
1 year to under 2 years	43	48	3	4	98
2 years to 4 years	31	25	3	3	62
5 years to 9 years	13	9	....	....	22
10 years to 14 years	4	7	....	1	12
15 years to 19 years	11	18	3	5	37
20 years to 29 years	37	26	8	6	77
30 years to 39 years	30	27	10	5	72
40 years to 49 years	28	17	3	1	49
50 years to 59 years	26	18	6	3	53
60 years to 69 years	25	14	1	2	42
70 years to 79 years	13	12	2	1	28
80 years to 89 years	10	12	....	1	23
90 years to 99 years	6	11	....	1	18
100 years and over	....	....	....	....	....
Age not stated	....	....	....	....	....
Total	411	356	65	54	886

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health district	Deaths	Annual death rate per 1,000
No. 1, Intramuros	144	44.80
No. 2, Meisic	128	14.29
No. 4, Sampaloc	148	34.88
No. 5, Tondo	382	55.11
No. 6, Paco	84	30.01
Total	886	33.89

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			11	10						1			22
5. Smallpox									1				1
6. Measles			1	2									3
8. Whooping cough				2									2
9. Diphtheria and croup			2	1									3
10. Influenza			2	1					1				4
14. Dysentery			10	8								1	19
17. Leprosy			1										1
18. Erysipelas				1									1
19. Other epidemic diseases			1	1									2
20. Purulent infection and septicæmia			1	2									3
23. Rabies			1										1
24. Tetanus			2	1					1	1			5
27. Beriberi			1	1									2
27a. Beriberi, infantile			34	23					1				58
28. Tuberculosis of the lungs			67	58		1	2		3				131
30. Tuberculous meningitis			3	3									6
31. Abdominal tuberculosis			8	4									12
32 Pott's disease			1										1
34. Tuberculosis of other organs			1										1
37. Syphilis			1										1
40. Cancer and other malignant tumors of the stomach, liver			1	1									2
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			2	1									3
47. Acute articular rheumatism			1										1
48. Chronic rheumatism and gout				1									1
50. Diabetes			1										1
54. Anæmia, chlorosis			1										1
55. Other general diseases			1										1
Alcoholism (acute or chronic)				1									1
Other chronic poisonings				1									1
II Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1	1									2

61. *Simple meningitis:*													
(1) Simple meningitis			14	11								1	26
(2) Cerebro-spinal meningitis (undefined)			1										1
64. Cerebral hæmorrhage, apoplexy			7	7					1				15
66. Paralysis without specified cause			1	4									5
67. General paralysis of the insane	1												1
68. Other forms of mental alienation			3	4		1							8
69. Epilepsy				1									1
71. Convulsions of infants (under 5 years of age)				1									1
III. Diseases of the circulatory system													
78. Acute endocarditis			2	1									8
79. Organic diseases of the heart			5	5					4				14
81. Diseases of the arteries, atheroma, aneurysm, etc			1	1									2
IV. Diseases of the respiratory system													
89. Acute bronchitis			28	31									59
90. Chronic bronchitis			6	6									12
91. Broncho-pneumonia			35	37					2	1			75
92. Pneumonia	1		12	8									21
93. Pleurisy			2										2
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa			1										1
102. Ulcer of the stomach			1	1									2
104. Diarrhœa and enteritis (under 2 years)			21	25									46
105. Diarrhœa and enteritis (2 years and over)			4	4					1				9
106. Ankylostomiasis			1										1
107 Intestinal parasites			1										1
108. Appendicitis and typhlitis			1										1
111. Acute yellow atrophy of the liver				1									1
113. Cirrhosis of the liver	1												1
115. Other diseases of the liver			2										2
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			2	5									7
120. Bright's disease			14	6			1		1	1			23
122. Other diseases of the kidneys and annexa			1										1
123. Calculi of the urinary passages			1										1
124. Diseases of the bladder				1									1
131. Cysts and other tumors of the ovary				1									1
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VII. The puerperal state—Continued													
138. Puerperal albuminuria and convulsions	......	......	......	3	......	......	......	......	......	......	......	......	3
139. Puerperal phlegmasia alba dolens, embolus, sudden death	......	......	......	1	......	......	......	......	......	......	......	......	1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene	......	......	......	1	......	......	......	......	......	......	......	......	1
144. Acute abscess	......	......	1	......	......	......	......	......	......	......	......	......	1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)	......	......	7	4	......	......	......	......	......	......	......	......	11
(2) Congenital debility	......	......	31	22	......	......	......	......	......	......	......	......	53
152. Other diseases peculiar to early infancy:													
(1) Injuries at birth (not stillborn)	......	......	1	......	......	......	......	......	......	......	......	......	1
(2) Other causes peculiar to early infancy	......	......	7	2	......	......	......	......	......	......	......	......	9
XII. Old age													
154. Senility	......	......	16	23	......	1	......	......	......	......	......	......	40
XIII. Affections caused by external causes													
175. Traumatism by other crushing vehicles, railways, landslides, etc	......	......	1	1	......	......	......	......	......	......	......	......	2
186. Other external violence	......	......	1	......	......	......	......	......	......	......	......	......	1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	......	......	......	1	......	......	......	......	1	......	......	......	2
Total	3	......	388	347	......	3	3	......	17	4	......	2	767
Grand total	3		735		3		3		21		2		767

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			1	2					1				4
6. Measles			1										1
9. Diphtheria and croup				1									1
14. Dysentery			2	1									3
17. Leprosy				1									1
27a. Beriberi, infantile			2	6									8
28. Tuberculosis of the lungs			6	6					2		1		15
30. Tuberculous meningitis			3										3
40. Cancer and other malignant tumors of the stomach, liver			1										1
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1	1									2
50. Diabetes			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis				1	1								2
61. Simple meningitis:													
(1) Simple meningitis				3									3
(2) Cerebro-spinal meningitis (undefined)				1									1
64. Cerebral hæmorrhage, apoplexy				1									1
68. Other forms of mental alienation			3										3
III. Diseases of the circulatory system													
78. Acute endocarditis			1	1									2
79. Organic diseases of the heart			2	2									4
IV. Diseases of the respiratory system													
89. Acute bronchitis			5	6									11
90. Chronic bronchitis			2	1									3
91. Broncho-pneumonia			6	2									8
92. Pneumonia				1									1
93. Pleurisy				1					1				2
V. Diseases of the digestive system													
102. Ulcer of the stomach				1									1
104. Diarrhœa and enteritis (under 2 years)			7	3									10

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system—Continued													
108. Appendicitis and typhlitis				1									1
113. Cirrhosis of the liver			2										2
115. Other diseases of the liver			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			3	1									4
120. Bright's disease				1					1				2
131. Cysts and other tumors of the ovary				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
136. Other accidents of labor				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene				1									1
IX. Diseases of the bones and of the organs of locomotion													
147. Diseases of the joints (tuberculosis and rheumatism excepted)									1				1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility			1	2									3
XII. Old age													
154. Senility			1	3									4
XIII. Affections caused by external causes													
155. Suicide by poison			1										1
160. Suicide by cutting or piercing instruments			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	2		1										3
Total	2		55	54	1				6		1		119
Grand total	2		109		1				6		1		119

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
8. Whooping cough					2	2
14. Dysentery					2	2
20. Purulent infection and septicæmia					2	2
24. Tetanus				3		3
27a. Beriberi, infantile				3	63	66
28. Tuberculosis of the lungs					1	1
30. Tuberculous meningitis					4	4
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					14	14
(2) Cerebrospinal meningitis (undefined)					1	1
89. Acute bronchitis					46	46
90. Chronic bronchitis					4	4
91. Broncho-pneumonia					24	24
93. Pleurisy					2	2
104. Diarrhœa and enteritis					39	39
119. Acute nephritis					3	3
120. Bright's disease					1	1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	8			3		11
(2) Congenital debility	10	4		15	27	56
152. Other causes peculiar to early infancy:						
(1) Injuries at birth (not stillborn)				1		1
(2) Other causes peculiar to early infancy	1	2		4	2	9
Total	19	6		29	239	293

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,160
Number of rats caught by spring traps	3,271
Number of cage wire traps set	660
Number of rats caught by cage wire traps	0
Number and kind of baits (coconuts)	20,820
Number of poison portions placed	16,154
Number of rats found poisoned	395
Number of rats killed by clubs and other weapons	868
Number of rats found dead from other causes	828
Total number of rats otherwise caught, found dead or killed	5,362
Total number of rats sent to the Laboratory for examination	5,362
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JANUARY, 1924, CITY OF MANILA

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	6	2	13	4	3	0	9	4	4	1	10	2	45	13
Female	2	0	10	3	1	1	7	5	3	1	11	2	34	12
Home:														
Male	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Female	0	0	1	0	1	1	0	0	0	0	0	0	2	1
Total:														
Male	6	2	14	4	3	0	9	4	4	1	10	2	46	13
Female	2	0	11	3	2	2	7	5	3	1	11	2	36	13
Grand total	8	2	25	7	5	2	16	9	7	2	21	4	82	26

REMARKS:

Total cases reported within the month in the City of Manila		95
Resident cases	70	
None-resident cases	25	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		26
Deaths among resident cases	22	
Deaths among non-resident cases	4	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		83
By autopsy	0	
By blood culture	0	
By clinical symtoms	73	
By faces examination	5	
By widal reaction	5	
Cases confirmed as paratyphoid fever		0
Cases not confirmed		12

Carrier, 1.

DYSENTERIES REPORTED DURING THE MONTH OF JANUARY, 1924, CITY OF MANILA

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	1	1	2	0	4	2	2	0	1	1	3	2	13	6
Female	1	0	1	0	1	0	3	0	1	2	1	1	8	3
Home:														
Male	0	0	1	1	4	4	1	1	1	1	0	0	7	7
Female	0	0	0	0	2	2	2	2	2	2	0	0	6	6
Total:														
Male	1	1	3	1	8	6	3	1	2	2	3	2	20	13
Female	1	0	1	0	3	2	5	2	3	4	1	1	14	9
Grand total	2	1	4	1	11	8	8	3	5	6	4	3	34	22

REMARKS:

Total cases reported within the month in the City of Manila		38
Resident cases	34	
Non-resident cases	4	
Total deaths reported within the month in the City of Manila		22
Deaths among resident cases	19	
Deaths among non-resident cases	3	
Cases not confirmed as dysentery		4

CHOLERA REPORTED DURING THE MONTH OF JANUARY, 1924, CITY OF MANILA

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	9	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases and suspected cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases confirmed as cholera	0	
Non-resident cases confirmed	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	
Deaths among non-resident cases	0	

Cholera carrier—None.

DIPHTHERIA REPORTED DURING THE MONTH OF JANUARY, 1924, CITY OF MANILA

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	1	1	0	0	0	0	2	1	1	0	1	0	5	2
Female	1	0	0	0	1	1	0	0	0	0	1	1	3	2
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	1	1	0	0	0	0	2	1	1	0	1	0	5	2
Female	1	0	0	0	1	1	0	0	0	0	1	1	3	2
Grand total	2	1	0	0	1	1	2	1	1	0	2	1	8	4

REMARKS:

Total cases reported within the month in the City of Manila		17
Resident cases	13	
Non-resident cases	4	
Resident cases not confirmed as diphtheria	7	
Non-resident cases not confirmed as diphtheria	2	
Total deaths reported within the month in the City of Manila		4
Deaths among resident cases	3	
Deaths among non-resident cases	1	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	6			
Varioloid				
Varicella	13	9		
Smallpox	1		1	
Measles	24	31	1	2
Whooping cough		3		2
Influenza	21	11	3	1
Bubonic plague				
Beriberi	2	1	1	1
Beriberi, infantile	35	23	35	23
Pulmonary tuberculosis	121	95	72	59
Tuberculosis of all forms	13	7	13	7
Encephalitis lethargica	1	1	1	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	1	1		
Varioloid				
Varicella	8	1		
Smallpox	1			
Measles	1		1	
Whooping cough				
Influenza	7	1		
Bubonic plague				
Beriberi	1			
Beriberi, infantile	2	6	2	6
Pulmonary tuberculosis	16	12	9	6
Tuberculosis of all forms	3		3	
Encephalitis lethargica				

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JANUARY, 1924

Sera and vaccines	On band January 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	291,000	150,000	441,000	441,000	
Anti-dysenteric serum (ampoules)	94	600	694	472	222
Anti-tetanic serum (units)		272,000	272,000	260,000	12,000
Cholera vaccine (c. c.)	2,300	12,000	14,300	10,400	3,900
Dried vaccine virus (units)	19,500	40,000	59,500	48,800	10,700
Fresh vaccine virus (units)	47,300	342,000	389,300	252,500	136,800
Gonococcus vaccine (ampoules)		204	204	180	24
Mixed cholera-typhoid vaccine (c. c.)	7,470	59,160	66,630	61,800	4,830
Normal horse serum (ampoules)		62	62	50	12
Typhoid vaccine (c. c.)	5,100	26,000	31,100	27,660	3,440

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	744	190	544	10
Meisic	8,080	231	7,732	117
Sampaloc	908	221	667	20
Tondo	1,176	420	741	15
Paco	2,739	126	2,592	21
Total	13,647	1,188	12,276	183

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	183	8	......	2	......	5	183	15
Meisic	179	5	15	61	......	......	194	66
Sampaloc	171	2	79	87	......	......	250	89
Tondo	364	8	72	5	......	......	436	13
Paco	113	4	36	25	......	......	149	29
Total	1,010	27	202	180	......	5	1,212	212

Vaccine virus:	
Received	24,150
Used	20,500
Remained	3,650

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	......	......	......	......	480	71
No. 2, Meisic	......	......	......	......	1,041	146
No. 4, Sampaloc	......	......	......	......	459	133
No. 5, Tondo	507	327	348	287	266	272
No. 6, Paco	......	......	......	......	778	1,317
Total	507	327	348	287	3,019	1,939

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1924—Continued

Districts	Number of injections made in—						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	....	....	....	....	293	62	....	....	906
No. 2, Meisic	....	....	....	....	871	155	....	....	2,213
No. 4, Sampaloc	....	....	....	....	383	145	....	....	1,120
No. 5, Tondo	714	384	598	365	536	299	1,932	1,598	1,373
No. 6, Paco	....	....	....	....	525	1,316	....	....	3,931
Total	714	384	598	365	2,608	1,977	1,932	1,598	9,543

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JANUARY, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections[1]	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	1,441	168	752	98	....	....
No. 2, Meisic	1,229	200	1,145	164	....	....
No. 4, Sampaloc	766	311	813	296	....	....
No. 5, Tondo	....	....	....	....	....	....
No. 6, Paco	618	495	609	912	....	....
Total	4,054	1,174	3,319	1,470	....	....

Districts	Number of injections made in—						Total No. injected		
	Females								
	First injections		Second injections		Third injections[1]				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	675	189	366	121	....	....	2,473	1,337	(1)
No. 2, Meisic	1,327	193	1,073	169	....	....	2,949	2,551	....
No. 4, Sampaloc	755	320	503	274	....	....	2,152	1,886	....
No. 5, Tondo	....	....	....	....	....	....	....	....	....
No. 6, Paco	644	653	592	972	....	....	2,410	3,085	....
Total	3,401	1,355	2,534	1,536	....	....	9,984	8,859	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924 [1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	1,038	212	533	293
Albay	13,373	2,207	7,898	3,268
Bataan	795	33	505	257
Batangas	11,892	1,624	7,408	2,860
Bohol	12,358	2,497	5,933	3,928
Bukidnon	155	68	30	57
Bulacan	2,962	999	1,017	946
Catanduanes	702	288	165	249
Cavite	773	176	447	150
Ilocos Norte	1,827	409	800	618
Ilocos Sur	3,164	434	1,693	1,037
Iloilo	7,363	2,243	3,048	2,072
Isabela	1,040	318	320	402
Laguna	3,050	633	1,062	1,355
Lanao	137	6	101	30
La Union	2,431	900	881	650
Marinduque	1,029	120	703	206
Nueva Ecija	2,354	490	377	1,487
Nueva Vizcaya	1,648	280	689	679
Occidental Negros	4,728	2,195	1,401	1,132
Pampanga	14,810	2,217	11,822	771
Pangasinan	7,314	2,633	815	3,866
Rizal	2,710	753	916	1,041
Sulu	411	137	184	90
Tarlac	2,157	459	879	819
Tayabas	3,496	784	1,587	1,125
Total	103,717	23,115	51,214	29,388

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	56	20	229	146	244	268	529	434
Albay	768	234	1,085	659	4,915	3,094	6,768	3,987
Bataan	66	37	127	68	227	270	420	375
Batangas	413	55	1,229	204	2,899	2,017	4,541	2,276
Bohol	494	133	897	344	1,284	587	2,675	1,064
Bukidnon	......	......	......	......	20	8	20	8
Bulacan	348	40	649	214	709	389	1,706	643
Catanduanes	138	50	94	41	68	75	300	166
Cavite	69	3	177	28	217	170	463	201
Ilocos Norte	110	32	253	56	338	467	701	555
Ilocos Sur	110	16	349	148	981	766	1,440	930
Iloilo	590	362	1,076	356	1,783	709	3,449	1,427
Isabela	19	16	153	184	203	268	375	468
Laguna	256	39	448	117	795	928	1,499	1,084
Lanao	4	2	22	8	27	17	53	27
La Union	258	83	537	216	164	514	959	813
Marinduque	57	22	74	78	360	198	491	298
Nueva Ecija	445	82	238	177	492	300	1,175	559
Nueva Vizcaya	135	18	322	58	782	251	1,239	327
Occidental Negros	743	233	950	411	701	270	2,394	914
Pampanga	700	44	2,703	332	6,965	4,560	10,368	4,936
Pangasinan	1,399	251	1,735	560	1,513	1,105	4,647	1,916
Rizal	302	92	364	138	463	435	1,129	665
Sulu	8	2	37	5	266	84	311	91
Tarlac	232	50	237	147	260	364	729	561
Tayabas	240	76	513	169	1,135	815	1,888	1,060
Total	7,960	1,992	14,498	4,864	27,811	18,929	50,269	25,785

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924 [1]

Province	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	814	839	....	....	....	....
Total	814	839	....	....	....	....

Province	Number of injections made in—						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	745	832	....	....	....	....	3,230	....	....
Total	745	832	....	....	....	....	3,230	....	....

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924 [1]

Province	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Pangasinan	36	6	20	3	14	3
Total	36	6	20	3	14	3

Province	Number of injections made in—						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Pangasinan	5	1	5	1	5	1	48	29	23
Total	5	1	5	1	5	1	48	29	23

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Ilocos Sur	126	43	439	26	365	....
La Union	215	230	91	146	....	....
Marinduque	74	75	136	130	....	....
Nueva Ecija	192	56	47	84	....	....
Pangasinan	418	148	297	99	....	....
Tarlac	146	132	13	113	....	....
Total	1,171	684	1,023	548	365	....

Provinces	Number of injections made in—						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Ilocos Sur	108	64	244	27	210	....	341	736	575
La Union	101	63	43	69	....	....	609	349	....
Marinduque	74	75	57	22	....	....	298	345	....
Nueva Ecija	73	132	38	124	....	....	453	243	....
Pangasinan	312	137	214	82	....	....	1,015	692	....
Tarlac	87	74	19	65	....	....	439	210	....
Total	755	545	615	389	210	....	3,155	2,575	575

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALL-POX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF JANUARY, 1924

Provinces and towns	Cases	Deaths
Mindoro:		
Calapan	1	....
Cavite:		
Cañacao Hospital	[a]2	....
Total	[a]3	....

[a] Suspect, foreign.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF JANUARY, 1924

Provinces and towns	Cases	Deaths
Cebu:		
Cebu	1	1
Laguna:		
San Pablo	[a] 1	....
Rizal:		
San Juan del Monte	[a] 1	1
Total	[a] 3	2

[a] Suspect.

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF JANUARY, 1924

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending December, 1923:						
Minor	52	12	16	33	39	152
Sewer	10	52	13	8	4	87
Vacating	......	10	4	2	3	19
Filling	7	1	14	5	3	30
Total	69	75	47	48	49	288
Orders issued during the month:						
Minor	17	9	1	1	5	33
Sewer	......	4	2	1	......	7
Vacating	......	1	......	......	......	1
Filling	......	......	......	......	......	......
Total	17	14	3	2	5	41
Grand total	86	89	50	50	54	329
Orders completed during the month:						
Minor	7	8	5	5	9	34
Sewer	......	1	1	1	......	3
Vacating	......	2	......	......	......	2
Filling	......	......	......	......	......	......
Total	7	11	6	6	9	39
Orders cancelled during the month:						
Minor	8	2	......	2	......	12
Sewer	......	......	1	......	......	1
Vacating	......	......	......	......	......	......
Filling	......	......	......	......	......	......
Total	8	2	1	2	......	13
Orders pending during the month:						
Minor	54	11	12	27	35	139
Sewer	10	55	13	8	4	90
Vacating	......	9	4	2	3	18
Filling	7	1	14	5	3	30
Total	71	76	43	42	45	277
Strong material plans approved:						
New buildings including additions and alterations	21	15	24	32	3	95
Permits for minor building constructions:						
Approved	25	13	24	29	5	96
Disapproved	3	1	4	7	2	17
New buildings completed	9	8	17	26	6	66
Light and mixed material constructions:						
Permits approved	2	......	22	35	25	84
Permits disapproved	......	......	2	15	9	26
Total number of building projects passed upon	60	37	93	144	50	384
Prosecutions:						
Convictions	......	......	......	......	......	......
Dismissals	......	......	......	......	......	......
Amount of fines	......	......	......	......	......	......
Plumbing permits issued	20	13	20	22	5	80
Plumbing projects completed	10	11	10	8	6	45
Premises connected to the sanitary sewer to December, 1923	1,700	2,873	1,085	577	425	6,660
Premises connected during January, 1924	2	3	4	3	......	12
Total	1,702	2,876	1,089	580	425	6,672

Intramuros includes Ermita and Malate; Meisic includes Sta. Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Sta. Mesa; Paco includes Pandacan and Sta. Ana.

SEP 5 1924

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV FEBRUARY, 1924 No. 2

In ourselves, we suffer for the sins we commit; in our communities, we suffer for the sins we permit.—**TENNESSEE HEALTH DEPARTMENT.**

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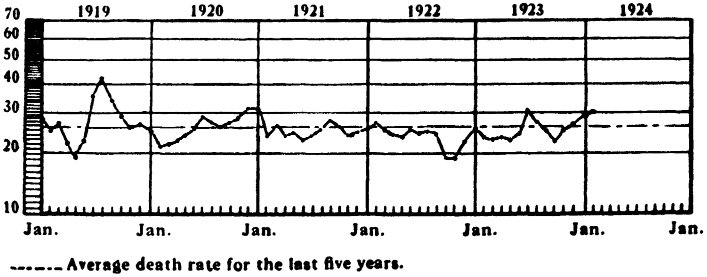

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV FEBRUARY, 1924 No. 2

MEMORANDUM FOR HIS EXCELLENCY, THE GOVERNOR-GENERAL

MANILA, P. I., *October 27, 1923*

SUBJECT: *Report on the medical and hospital service of the Japan Relief Mission.*

A copy of the report above, which has been rendered to Brigadier-General Frank R. McCoy, U. S. Army, in command of the American-Philippine Relief Mission on duty in the devastated area in Japan, is attached hereto.

E. L. MUNSON

HEADQUARTERS JAPAN RELIEF MISSION
TOKYO, JAPAN

October 13, 1923

SUBJECT: *Final report on the medical and hospital activities pertaining to the Japan Relief Mission.*

TO: *Commanding General, Japan Relief Mission.*

ASSIGNMENT OF THE UNDERSIGNED

The undersigned was placed incharge of all medical relief of the Philippine Government by letter from the Governor-General, dated September 6, and was also one of the accredited representatives of the Philippines Chapter, American Red Cross.

He was member of the military personnel from the Philippines according to paragraph 1, S. O. 191, Headquarters, Philippine Department, September 5, 1923, and assigned incharge of military as well as civilian relief by oral orders, Commanding General, Philippine Department.

He reported to Commanding General, Japan Relief Mission, according to paragraph 4, S. O. 2, Headquarters, United States Army Japan Relief Mission, September 16, 1923, and assigned to duty incharge of medical and hospital relief work of the Mission by oral orders of the Commanding General.

SHIPPING CONCERNED

The personnel and original material for the Mission came on the U. S. Army transports *Merritt* and *Meigs* from Manila, and the *Somme* on the twenty-sixth, a few days later than the first two.

One medical officer and three enlisted men of the Medical Department also arrived from Tientsin, China, with a small amount of medical supplies, on the Navy ship *Bittern* on September 12th.

MEDICAL AND NURSING PERSONNEL

The sanitary personnel that reached Japan from Manila on the *Merritt* included 10 Army medical officers (one transport surgeon); 2 Medical Administration Corps; 4 American civilian physicians; 9 Filipino physicians; 1 Filipino dentist; 1 American civilian nurse; 6 nurses, Army Nurse Corps; 57 Filipino nurses, of whom 19 were male and 38 were female.

There were 3 Filipino physicians who reported at the dock to sail on the *Merritt,* and 5 Filipino nurses who went ashore on some last minute business and were left behind. None of them rejoined.

On arrival in Japan, the foregoing personnel was reinforced by 1 Army medical officer and 3 enlisted men of the Hospital Corps from China.

The transport *Somme* arrived at Yokohama on September 26 and brought 10 Army medical officers, 6 nurses of the Army Nurse Corps, and 41 enlisted men of the Medical Department.

NON-MEDICAL PERSONNEL

The *Merritt* carried a considerable number of commissioned officers and enlisted men of the line who, however, did not engage in the relief work ashore and shortly returned on the *Merritt* to Manila.

The *Meigs* brought 23 enlisted, chiefly mess sergeants, cooks, and bakers.

Other than the Commanding General, there remained with the Mission 14 commissioned officers, 2 warrant officers, and 137 enlisted men of the branches other than the Medical Department.

ORGANIZATION OF PERSONNEL

Because of the limited amount of medical and nursing personnel available, it was necessary to organize it in such a way as to make the best use of individual professional qualifications, irrespective of nationality or prior status.

A plan was accordingly drawn up on the way aboard the *Merritt* which created special professional teams which could be utilized as desired. These teams included Army personnel, Red Cross doctors and nurses, Philippine Health Service personnel, and civilian volunteers.

When the *Somme* arrived, her medical personnel was at first engaged in handling the medical supplies on that ship, but was gradually transferred to the Bei Hi Hospital and absorbed in the general personnel therewith. This necessitated appropriate changes in the organization plans previously prepared. All non-medical positions, as quartermaster, mess officer, etc., were filled by details of officers and men of non-medical branches. In the work of tent-pitching and laying out of the hospital at Yokohama, this was performed by enlisted details from the line on the plans drafted by the Medical Department.

The unloading of the *Somme*, on the other hand, was handled by the Medical Department.

In the work for the rehabilitation of Saint Luke's Hospital, and especially in the establishment of the Bei Hi Hospital, all the elements of personnel functioned side by side.

Very much valuable assistance in respect to the handling of material was given by the personnel of the Japanese Navy, and by laborers furnished by the Japanese Red Cross.

JURISDICTION AND AUTHORITY

The emergency to be met, and the status of the personnel to meet it, were without precedent. All elements of the Mission, civil and military, however, realized the necessity of having their efforts coördinated by some central authority.

As soon as it was decided that all stores, other than medical, were to be turned over to the Japanese authorities at shipside, the problem became exclusively medical.

But the Medical Department and civilian relief organizations had not provided sufficient personnel to operate—other than professionally—the proposed hospital units. The assistance of line troops was indispensible to securing results creditable alike to the Medical Department, to the Army at large, and to the American people. A difficult administrative situation had to be met.

An officer of Field Artillery was put in command of troops, while an officer of the Medical Department was in command of the hospital with the operation of the internal affairs, of which those troops were directly concerned. It was conceivably possible that the desires of the Medical Department in respect to hospital matters might not be carried out by the line personnel, or that there might be interference by the latter in matters professionally technical. The limitations of command by medical officers to enlisted men of the Medical Department made it possible at any time for line personnel on duty in the hospital to disregard or refuse to obey directions from the medical authority of the hospital. That friction did not arise within the personnel, was due to the wholehearted coöperation by all concerned, and especially to the tactful relations existing between Lieutenant-Colonel D. W. Hand, Field Artillery, the senior officer with troops, and Lieutenant-Colonel C. F. Morse, Medical Corps, the senior medical officer in the hospital, whose mutual efficiency the undersigned desires here strongly to commend.

If, when the Medical Department hereafter sends the material for an organized unit into the field, it will send with it a sufficient Medical Department personnel to set it up and operate it, such potential difficulties of administration as above-described will be avoided.

SPIRIT OF PERSONNEL

I desire to invite attention to the spirit of willingness for any kind of service which pervaded the personnel. The needs of the emergency made it necessary for most of the personnel to perform duties which they had not come to do. There was practically no professional work, and the medical personnel conducted stevedore, transportation, and construction work with signal success. A hospital would be put up only to demonstrate and explain its equipment to the Japanese personnel and then to turn it over to them. The personnel had at first to be restricted within limits until the Japanese population had become accustomed to them, stormy weather confined them to shelter, and temporary lack of other shelter made it necessary to hold the female nurses aboard ship for considerable periods.

All made the best of these conditions, which must have been especially trying to the Filipino nursing personnel, most of whom were away from their island home for the first time and unused to travel.

I desire particularly to commend the spirit and conduct of the 38 Filipino female nurses who formed part of the Mission. They went through sea-sickness, typhoons in camp, and confinement on shipboard, and the three American chief nurses successively incharge reported that they had never heard the slightest complaint from any one of them—that they were always smiling, helpful, and efficient. I desire especially to call to your attention the exceptional conduct of Miss Fortunata Ugtong, Filipino nurse, who was indefatigable in her physical ministrations to the seasick during a typhoon, and in raising their spirits throughout the entire period of service.

SICKNESS IN THE PERSONNEL

Other than sickness due to typhoons encountered on the way, the personnel has had practically no sickness. This is especially gratifying in respect to the Filipino contingent, which was brought into an unaccustomed cold climate, with frequent cold, stormy weather. All were inoculated against infectious disease before arrival, and plenty of warm clothing, good food, and comfortable shelter enabled them to avoid colds and bronchial affections so common in Japan at this season.

LOADING OF SUPPLIES ON TRANSPORTS

This was done at ports of departure in such a manner as to delay the establishment of hospitals in a deplorable manner. In respect to the Yokohama Hospital, it delayed its establishment and operation by some two weeks. Stores were apparently loaded as received, with little or no consideration as to priority of need ashore, or reference to the imperative necessity of keeping the component articles of organized units reasonably together. Food, clothing, medical supplies, tentage, Quartermaster utensils, etc., were all jumbled together indiscriminately. Nobody apparently thought of the obvious fact that the first thing needed ashore would be shelter for personnel and supplies, and so it happened that all the tentage on the *Meigs* was put in the very bottom of the hold. Nobody seemed to realize that there would be no facilities for sorting cargo ashore, and but little facilities aboard ship. Stores were accordingly loaded in such a way that to sort out the component of an organized hospital from the vast mass was a most difficult problem. Thus the *Somme* carried 13,650 packages of medical and hospital supplies, not including tentage and cots. It is realized that the transports were hurried off from the ports of departure. But higher authority could have outlined a more logical method of loading in any case. As to delay, a delay of half a day in Manila by the *Meigs* because of more selective loading woud certainly have saved more than a week's delay in rendering hospital service in Japan. What applied to the *Meigs* applied in somewhat lesser degree to the *Somme*. It is proper to say that some delay in unloading the *Meigs* in respect to hospital supplies was due to stormy weather and to lack of lighters. An aggregate of more than four days' time was lost from these causes in the first eleven days after the arrival of the *Meigs*.

MOVEMENT OF SUPPLIES FROM SHIP TO HOSPITAL SITE

Only the *Merritt* was able to unload at a dock. The *Somme* discharged by lighters in Yokohama Bay. The *Meigs* was partly unloaded six miles off shore in the roadstead of Tokyo, though later moved in to about four miles off shore. With the two last-mentioned ships, rough weather or shortage of lighters proportionately interfered with discharge of cargo.

In the process of discharge from lighters, supplies which had been painstakingly assorted were frequently again mixed up. Much of the material from the *Somme* was transferred from lighters to train for railroad shipment from Yokohama to Tokyo, and this was frequently again mixed up in the latter process. Sorting on arrival in Tokyo had often to be followed by sorting again at the final destination. A vast amount of time and patience was consumed in the task of trying to get coördinating items together and keeping them together.

Very great credit is due to Major C. E. McBrayer, M. C., and to Major S. F. Parker, M. C., for the rapid and efficient way in which he and his subordinates accomplished the unloading of the *Somme,* and to Second Lieutenant S. A. Clark, M. A. C., for his efficiency in assembling the equipment of hospital units from the conglomerate mass of freight on the *Meigs*.

HOSPITAL AT YOKOHAMA

This was the first step of medical relief work. A site was assigned to this hospital by the Japanese authorities on a strip of filled land just across the canal from the Bund and from the ruins of the former Grand Hotel. The location of this site was excellent, being adjacent to the devastated area, fronting on a canal and reached by the road on the Bund. The character of the site was extremely poor. The earth was constantly trembling and seemed almost without foundation. There were old and new fissures, and the configuration and drainage of the surface was constantly changing. The road-bed off the Bund, fortunately short, was so soft that trucks constantly mired despite constant filling of soft areas with bricks and material from the ruins.

There was at first no water. As the water system of Yokohama was wrecked, arrangements were made with the Navy to distill and supply water by barges. Fortunately, a good well was found, the Navy mechanics coupled enough boiler tubes to make a conduit, a pump was installed, and the water supply ceased to be a problem.

It was planned to put up a hospital to care for 350 patients, with tentage and equipment in reserve to care for a total of 750. The administration part of the hospital, kitchen, mess, laboratory, and tents for personnel were put up rapidly, and a dispensary and operating room established. All this equipment was carried on the *Merritt.*

Most unfortunately, however, all the ward tents from Manila were carried on the *Meigs,* and the hospital shelter was thus divided. That on the *Meigs* had been loaded first and was at the bottom of the cargo, and was not reached until September 29, or ten days after her arrival. It was two weeks after the administrative tentage went up that the wards were able to shelter more than a handful of patients. In the meantime, however, the dispensary had begun to function and handled a considerable number of cases.

The Yokohama Hospital was turned over to the Japanese authorities on September 29. The American personnel at once went aboard the *Somme* for subsistence and quarters, pending their gradual transfer to Tokyo as accommodations there were made ready.

SAINT LUKE'S HOSPITAL

The second step was the rehabilitation of this institution. This was an American hospital in Tokyo, with a mixed staff of Americans and Japanese. It was a 70-bed hospital, about to be increased to 150 beds, and a place of resort for Americans and Europeans, as well as Japanese needing hospital care. The institution and its equipment were totally destroyed, though all the patients were saved by the hospital staff by being carried to the water front and covered by wet blankets.

On the arrival of the Mission, the authorities of Saint Luke's Hospital requested that they be furnished with Army hospital equipment sufficient to enable them to resume work. This request met with the approval of the Japanese authorities, and the Saint Luke's Hospital was informed that it would be given one field hospital, complete, with such accessory articles as might seem desirable. Instructions were later received from the War

Department, presumably from application filed in the United States, to make such property issues as seemed necessary.

The equipment turned over to Saint Luke's comprised one field hospital, 216 beds, complete, together with a large amount of additional and supplementary supplies, such as field laboratory, complete, bedside X-ray outfit, steel cots, mattresses, extra blankets, clothing, and additional medicines, dressings, etc. The medical supplies were approximately sufficient to run the hospital for six months.

In addition, a balanced ration of 2,500 calories was given for 350 persons for two months.

The hospital was then turned over in condition to receive patients without delay.

Because of difficulty in unloading the *Meigs*, there was considerable delay in assembling the outfit for Saint Luke's. It was put up piecemeal as equipment could be taken ashore.

The compound of Saint Luke's was on a water front and was directly accessible by lighters. It consequently became a dump, not only for the supplies for Saint Luke's Hospital, but for a large part of that for the Bei Hi Hospital and for supplies for the United States Embassy, intended for the assistance of American refugees. The mass of material became so great as to cover much of the ground space and prevent complete establishment of the hospital. After about ten days of such delay, the Saint Luke's Hospital, which had been partly put up, was moved to another site several hundred yards away, and was established rapidly on a well-planned basis. This hospital was turned over to the Saint Luke's Hospital authorities on October 10. The medical and nursing personnel of this hospital had in the meantime been reassembled and organized to take things over.

In respect to the use of the equipment, the Saint Luke's Hospital was fortunate in having on its staff Dr. S. V. Kibby, who had several years' experience as a medical reserve officer during the War and was familiar with the equipment turned over.

The hospital equipment for Saint Luke's was installed by a detachment of line personnel, under the immediate supervision of medical officers. They also took charge of the sorting out of the vast amount of medical and other supplies unloaded on the Saint Luke's Compound and which had to be sent to four different destinations. In this connection, the efficient services of Major C. P. Martin, M. C., who was charged with seeing that Saint Luke's Hospital received its full equipment, of Major C. R. Callender, M. C., who was responsible for the general sorting and distribution of supplies, and of Major E. A. Noyes,

M. C., who handled the unloading of the great number of lighters which discharged at this point, should be mentioned.

BEI HI HOSPITAL

The third step was the establishment of the Bei Hi Hospital. This was a 1,000-bed base hospital and was put up on a beautiful inclosed park-like area belonging to Prince Takamatsu, in the Azabu district of Tokyo.

This was grassy, high ground, well-drained, provided with a piped water-supply, and with many ornamental trees and shrubs. It was in the unburned area and only a short distance from the Japanese Red Cross Hospital.

It was decided to set up the administrative and personnel part of this hospital complete; together with tentage and equipment for 480 patients, by leaving further equipment for an additional 520 patients on the site in store tents, for later expansion should the Japanese so desire. This hospital was of the very latest model and very complete in its appurtenances. It was laid out in an attractive and convenient way and it presented a very sightly appearance. A very complete laboratory, operating outfit and X-ray equipment formed attractive parts of this hospital. The cost of this hospital was estimated at approximately $1,000,000. In addition, a vast amount of reserve and supplementary supplies, including food, clothing, tentage, bedding, etc., as well as drugs, dressings, apparatus, etc., were sheltered in a large number of store tents.

Mention of all excellent work done in connection with the establishment of this hospital would practically be a roster of its personnel. Lieut-Col. C. F. Morse, M. C., was charged with the medical responsibility, and Major M. W. Hall, M. C., did excellent work in connection with the receipt and handling of property. Lieut.-Col. D. W. Hand, F. A., had responsibility for personnel, and Lieut. B. L. Meeden, Q. M. C., did very fine work in taking charge of tent-pitching and hospital establishment.

The Japanese authorities began to put in their personnel of doctors, nurses, etc., on October 10, to be familiarized with the equipment, administration, etc., before taking over the establishment. Interpreters were put with such parties, and the Mission personnel did all things possible to acquaint the Japanese personnel with all important matters.

This hospital was honored by the personal inspection of His Imperial Highness, the Prince Regent, on the morning of October 13. In the afternoon of October 13, this hospital was formally turned over to the Japanese authorities, the personnel of the Mission went aboard the *Somme* at Yokohama, and all medical activities terminated.

CAMP HOSPITAL

The fourth step was the establishment of a Camp Hospital of 24 beds. The *Somme* brought the equipment for 52 such small hospital units, and it seemed very desirable to demonstrate the equipment and use of one to the Japanese authorities.

One such unit was accordingly set up on the same grounds as the Bei Hi Hospital. It was used only as an exhibit and for demonstration purposes. The Japanese are accustomed to small hospitals, and this small unit seemed particularly suitable for use in the refugee districts in handling emergency cases.

This little hospital made a very attractive exhibit and evoked much favorable comment. Major C. K. Berle, M. C., was responsible for getting it together, bringing the equipment up from the *Somme*, putting it up, and demonstrating its use in connection with American and Filipino doctors and nurses. His duties were carried out very efficiently.

DISPENSARY IN TOKYO

On arrival, the Mission took over and operated a dispensary in the Imperial Hotel in Tokyo, which treated a large number of American and European refugees. One Army surgeon, one Filipino doctor, one Filipino dentist, and one Filipino nurse constituted the Mission staff. On departure, its operation was turned over to Saint Luke's Hospital.

MEDICAL AND HOSPITAL PROVISION FOR EMBASSY

On the departure from Japan of the other personnel of the Mission, Major Claude W. Cummings, M. C., one sergeant and two privates, Medical Department, were left behind on temporary duty, at the request of the United States Ambassador, with orders to report to him for assignment to duty. There were medical and hospital equipment and supplies sufficient for a well-supplied dispensary and the treatment of emergency cases. It is understood that this personnel and equipment will function in connection with the United States Consulate at Yokohama, where there is a considerable American contingent without any American medical assistance since the destruction of the United States Naval Hospital there.

REPLACEMENT OF TOKYO HOSPITAL LOSSES

Before the earthquake, Tokyo and its suburbs had a total of 172 hospitals, 115 of which were destroyed. The Mission brought in the complete equipment and tentage for 68 hospitals, ranging from 24 to 1,000 beds.

Before the earthquake, there were 8,620 hospital beds in Tokyo and vicinity, of which approximately two-thirds were reported destroyed. This would be a loss of about 5,700 beds. The Mission brought in completely organized hospitals having an official capacity of 4,100 beds, but which with the addition of the extra tentage, cots, blankets, and medical supplies brought by the Mission, could have effectively cared for 6,000 patients.

It appears, therefore, that the Mission hospitals could practically have replaced the hospital losses of Tokyo and suburbs, though of course leaving no surplus for replacement of hospital losses in Yokohama and other communities.

In addition, there was a large amount of unorganized hospital supplies, which will doubtless be put to use in increasing the facilities of the remaining Japanese hospitals.

VALUE OF MEDICAL EQUIPMENT TURNED OVER

The value of the Army Medical Department supplies brought from Manila on the *Merritt* and *Somme* have been checked against the price list of the Medical Department and found to aggregate $838,467. These ships carried 1 evacuation hospital, 2 field hospitals, 1 field laboratory, and many miscellaneous medical supplies.

The Army Medical Department articles brought from the United States on the *Somme* represented a much larger quantity and variety, and comprised practically a shipload. The value of non-expendable property is estimated at approximately $3,500,000 and of expendable $400,000, approximately amounting to $3,900,000. The items will be checked against the official price list, and a detailed statement rendered later.

The main items on the *Somme* comprised:

1	Base hospital, (1,000 beds) complete.	
12	Field hospitals (each 216 beds).	
52	Camp infirmaries	(Each sufficient for a 24-bed hospital.)
52	Camp infirmary reserves	
4	Field laboratories.	
20,000	Blankets.	
30,000	Sheets.	
30,000	Pajamas.	
3,000	Steel beds.	
5,000	Folding field cots.	

also a large amount of miscellaneous supplies.

Only tentage for the organized hospitals set up is included in the figures above. The total value of the Army Medical Department articles turned over is thus approximately in excess of $4,500,000.

APPRECIATION BY THE JAPANESE

Thanks for the medical assistance brought by the Mission have come from Japanese sources on all sides, official and personal. The completeness and quality of the hospital equipment has evoked much commendation from the Japanese doctors and nurses.

GENERAL SANITARY SITUATION IN TOKYO

The newspapers report that on October 11, there were 703,871 inhabitants of Tokyo receiving Government food and supplies, and 301,000 houses were destroyed. Of the medical practitioners in Tokyo before the earthquake, about 3,000 had their offices destroyed, many were killed, and only about a third of those formerly in practice are now engaged therein. The remaining hospitals are giving employment to larger staffs, and a good many are being utilized in Government dispensary and health work. Public dispensaries have been pretty well distributed over the city.

The Foreign Office asked for suggestions as to the health situation, and these were given by the undersigned to Dr. Nagoyo, Chief of the Institute for Infectious Diseases. A written report in some detail was also furnished the Commanding General under date of September 27. The conditions then forecasted as to a great rise in infectious diseases, especially typhoid fever and dysentery, have already materialized and may be expected to become worse. Within a little more than three weeks after the first incubation period of typhoid fever (September 1–12) about 1,000 cases of typhoid fever and about 2,000 of dysentery had occurred. This large number of new cases will have spread infection and in due time be responsible for a still larger number of cases. The only way to alleviate the typhoid menace is by anti-typhoid inoculation of the people generally, but this the Japanese authorities seem unwilling to undertake. Fortunately, the city water supply is good and intact, but the prospect as to typhoid fever, dysentery, and respiratory diseases for some months is unfavorable.

RELATIONS WITH THE JAPANESE RED CROSS

The relations of the Medical Service with the official liaison officers of the Japanese Red Cross were very close, and all external relations were adjusted through them. They were kept constantly informed by memoranda in writing of any plans projected, needs apparent, and actions taken. I cannot speak too highly of their close coöperation and unfailing assistance. Particular mention should be made of the very great assistance given at all times by Mr. Sakai, Doctor Goto, Mr. Matsukata, Mr. Yamamoto, and Mr. Ida.

RELATIONS WITH THE AMERICAN RED CROSS

These were at all times very close and coöperative. The Red Cross supplied a large part of the Filipino doctors and nurses. It furnished no medical supplies on the three ships above-mentioned, but a very large amount of foodstuffs and other articles. I desire to express appreciation of the unfailing aid of Colonel Knowlton Mixer and Captain H. W. Rogers of the Red Cross.

RELATIONS WITH THE MISSION STAFF

These were always very close and coöperative. The work naturally brought constant contact with Major N. E. Bailey, Q. M. C., and his able management of his department aided very greatly in alleviating the difficulties of the medical service. Constant support was given by the Commanding General and Col. G. T. Langhorne, Chief of Staff.

ADDENDA

Copies of reports covering the operations of the medical personnel of the *Somme*, and the general medical personnel in the several hospitals, are appended.

E. L. MUNSON
Colonel, Medical Corps
Chief Surgeon, Japan Relief Mission

STATEMENTS MADE BY COLONEL MUNSON IN THE CONFERENCE GIVEN TO HEALTH OFFICERS ON OCTOBER 31, 1923, RELATIVE TO THE WORK OF THE JAPANESE RELIEF MISSION

The work that fell to me was the coördination of all the medical relief agencies and the adjustment of relations with the Japanese authorities; and I may say, at the start, that the Japanese organization had not been perfected because of the destruction of life and property and the complete destruction of all their local organization for control, such as police and sanitary organization and all other things that go to make up the municipal government or the provincial government. Now the destruction of property and life covers an area of approximately 100 miles long and approximately 20 miles wide. That area includes the biggest city and the third biggest city of Japan. It includes a large number of cities that ordinarily would be pointed out as of very large size, the destruction of which would have been a disaster of great magnitude; yet in view of the fact that other larger cities were destroyed, you did not hear very much of the destruction of the smaller ones.

The zone of destruction included Tokyo with a population of 3,200,000 people. That loss did not include the municipalities outside, such as Caloocan or Pasay would be in relation to Manila. That destruction was in addition to the City of Yokohama, which is a city approximately twice as big as Manila, and that last city was totally destroyed.

Now, it seems to me, in talking this matter over, that you, gentlemen, ought to be informed as to the conditions which we met and how they were met, because you never can tell in this Philippine zone of earthquakes where similar disasters may occur. You have had very serious ones and you may have them again because the whole rim of the world around the Pacific Ocean is practically in an unstable condition. If we go back for about fifteen years, we see that we had the San Francisco earthquake; that was followed within a year by the big earthquake in Martinique that destroyed the city there. You remember that the following year you had the Messina earthquake; you remember that, shortly after, that, a volcano erupted in the

United States in Mount Lassen; you remember that a little bit later than that a new island loomed up off Alaska full of smoking volcanoes; you remember that there was an eruption of Mount Etna and another, a minor one, is Vesuvius in Italy; you remember that there was a big tidal wave down in Chile; you remember that in 1911 you had Mount Taal blow up. This world is not yet finished and is in an unstable equilibrium.

So, all these things show the possibility of something such as you had in the past to occur again. When it occurs again it may be such a slight eathquake as we had the night before last; or it may be a very serious thing and any one of the largest communities of the Philippine Islands may be more or less affected. So, if you get an idea of what we went up against, you will get an idea of what preparation you might need in case of serious earthquake here. Of course, we hope that there will be none! But Nature's scheme goes by thousands of years and they have had earthquake in Japan as a matter of record for five hundred years.

The center of the Japanese earthquake occurred in the vicinity of Yokohama about seven or eight miles out of the bay, out in the open sea. There was a landslide. The ground swayed and the sea deepened in some places from two hundred feet to two thousand feet. Certain areas were raised, certain harbors ceased to be harbors, certain portions that had been considerably under water suddenly appeared as land. Yokohama was most seriously affected by the earthquake. The earthquake threw down so many buildings simultaneously that you may say the destruction there may practically be regarded as earthquake destruction. In Tokyo, a considerable number of miles from Yokohama, Tokyo being 25 miles from the latter city, a vast number of houses were burned down and demolished. Now, that brings up the point of how we can plan our city and build our houses so that in cases of earthquake we may be seasonably safe.

I have said that Yokohama, which is twice the size of Manila, is wholly destroyed. There was not anything left of Yokohama. For example, if you were cut here in the bay, about two miles or so, and with a telescope you look at Manila, you would see everything destroyed, blackened, in ruins, from Navotas to Parañaque. In Tokyo the burned area is 12 miles long and 45 miles wide, and in that area you may say that everything is destroyed. There is, in one or two districts, steel construction that has stood, but all but a few of such structures will have to be blown up and rebuilt. When we left Yokohama, we could hear the sounds of explosions of the Japanese army engineers going around and dynamiting the houses. Now, in this area, gentlemen, of about one hundred miles long and twenty miles wide, there was destroyed property perhaps approximating twenty billions of pesos which is as much as the entire Philippine Government revenues of last year carried out for three hundred years. The number of houses destroyed was more than six hundred thousand. When I say *destroyed,* that means that they were simply wiped off. They are gone. And you can ride in an automobile, as I did for one hour and fifteen minutes, and never see a proof on four walls. The question of shelter is another problem that has relation to disease.

The loss of life, as given to me by the Japanese just before I left, in killed and missing, is 228,000 people. The hospitals in Yokohama and Tokyo alone, not considering other areas, country places, and the dispensaries that were put up, handled 71,000 cases of wounded. So that the dead and wounded, not considering the outside districts, were considerably more than the entire population of the City of Manila. Considerably more than two-thirds of the population of a city the size of Manila were killed. In Yokohama this is what happened. The ground cracked and the buildings fell down. Consequently, the water mains broke and they had not water to put out their fire with, which had started in many different places because of broken gas pipes, chemicals, and charcoal embers glowing. There was no organization left. The area was so completely destroyed that the fire department houses went along with everything else. The police stations were wiped off, nothing was left of the city hall, the city government was destroyed. It was just exactly as if you have these things in Manila when the records are destroyed, the police force is wiped out, police stations are wiped out, and at the same time the roads are all destroyed, the bridges are torn down, the docks are wrecked, railroad tracks bent and twisted by earthquake shocks. The telephone system was broken down, the telegraph system destroyed, the wireless stations were thrown down. There they had an organized government, as you had here, which was completely destroyed and broken from the bottom to the top. Members of the Royal family were destroyed. Many ministers and high dignitaries and officials that would be looked upon to give the orders were destroyed. Their officers were wiped out, records wiped out, places of business destroyed—nothing was left, so that there you have a population wandering around and drifting into the very serious situation of anarchy. I say anarchy because you and I are law-abiding citizens. But if you and I get hungry and particularly have not had food for three or four days and see the baby and the wife crying because they have not had any food or shelter over their head, or anything else, why, we will cease to be law-abiding and we will revert to the original type and go out and take food and get it where we can. We will probably storm the commissary and get food ourselves.

Now, the Japanese met that situation by moving in troops immediately. The American fleet brought in supplies which were distributed. The Japanese brought into the devastated area four Army divisions, and at once an organization was formed over the entire devastated area. The doctors became chief health officers, subordinate officers became police officers, the soldiers became firemen, sanitary inspectors, policemen, guards, transportation men. They operated the movement of supplies, and the element that would have been hungry was controlled. By spreading in the military, they got control—administrative control—of the situation, and that control still continues. Now, how could we do it here? The very first thing would be to move in the United States troops and the Constabulary.

Now, the second step that was necessary was, of course, the feeding of the people, and the feeding of the people was done by the Japanese authorities. They rushed their foodstuffs in as fast as they could by water—by boats; railroad tracks were broken up, and the roads are cracked in many places and are covered with the buildings that have crumbled down. But they also found a great difficulty with water transportation because of lack of boats. Why lack of boats? Because they had great big warehouses there and oil tanks near the bay. When the earthquakes came, they cracked the oil tanks and into the sea the oil flowed, sweeping up and burning the boats in the esteros and burning the ships. That destroyed much water communication. If anything of that sort should come down the river here, you will have a flaming sea of oil from Cavite almost to the Bataan coast. Now, when they got the supplies on shore, they had organized distributing stations. These were organized by the Army. The gendarmarie, which corresponds to our Constabulary, maintained a government until the civil organization could be reënforced and the civil organization could be renewed. The first thing, of course, was to give food and water. And by the way, when we first went to Yokohama they got their water from outside wells or something which later on became more or less infected. In Tokyo they have their water mains still going. About food, we brought up from the Philippines about sixteen hundred thousand dollars worth of food. More supplies, mostly medical, were taken to the shore. We had four and a half million dollars worth of medical supplies turned over to the Japanese. The Japanese did the work of food distribution. This is how they did it. They did not require any applicant to fill out any card for the first time. You see, giving relief to one million and three hundred thousand people at the very start is not little work, and to try to write and fill out cards is impossible. They just issued for the purpose discs for identity and gave each one as much food as he and those dependent upon him would need in two or three days. When he came back they were ready with their blank and filled it in according to the disc belonging to such a man. When he came back after that—disc No. 21 let us say—they went over their cards and he could not draw on that disc twice on the same day. It was a very effective system. But they ought to have had more food stations. I have seen breadlines there from seven o'clock in the morning to seven o'clock in the evening and always a mile long. If they had increased the number of stations, they would have saved time.

Now, the next step, gentlemen, was the question of clothing. Many of these people had no clothes. They fled leaving everything behind, and what they had was destroyed. Before we left, the weather was getting very cold. They need more clothes. So the stuff that we brought up in the way of clothes and blankets was very helpful. We brought up from here 20,000 blankets; and from San Francisco 30,000. From here we also brought up medicines, 10,000 suits of outer clothing and 30,000 sets of underwear.

Now, the question of shelter. People wandered around the burned area and picked up galvanized iron roofing to build their temporary shelter. But for the time being they were told to move out of the burned area. They were told to go anywhere outside the devastated area and were furnished free transportation. For example, here if you have a cousin in Cebu or a brother in Vigan, you would be told to go there and come back later on. That would relieve the congestion. They thus moved out many thousands of people. At the time we left, they had just withdrawn the privilege of free transportation.

Another thing we had to meet was disease. Tokyo was a fairly healthy city. They were having a relatively small amount of typhoid fever—two or three cases daily, when the earthquake occurred—about one twentieth of the rate of typhoid fever here.

We began under very good conditions. But remember that Yokohama's water supply was destroyed. The wells, with the people wandering around without proper places for defecation, were infected by surface drainage. There were very little facilities for sterilizing water, but disinfection was resorted to. In two weeks they disinfected 14,000 wells. These wells were reinfected again. A rise of dysentery and rise of typhoid fever were observed. We expected a rise in respiratory diseases. If they had influenza, they would have had greater loss of life. The rise in typhoid fever is shown on this graph for Tokyo. I did not have the figures for Yokohama. But remember that there were 115 hospitals that were destroyed in Tokyo and its vicinity. The Japanese ran very much the small hospitals. Fortunately, the few very big hospitals were not destroyed. Now, when we look up at the rise in disease, you will find that the number is explained at the bottom of this line. On the fifth day after the earthquake we began to get a little rise. The rise in typhoid fever really began 12 days after, and from this chart you will see that the incubation period ran about 12 days. What could be done? They were doing there everything in the ordinary way. The Japanese said they could not inoculate. If you will do this thing, I told them, you will get an immunity that will last three years. You need not pass a law to have the people inoculated. You can tell them that if they want food or if they don't want to get out of the Government shelters they have got to be inoculated.

Now, let us talk about the hospital service. A few hospitals that were left in that part of Japan were, of course, overcrowded. A Japanese with a broken leg stood no chance during the fire. The fire broke out simultaneously all over the cities, and that brings up the point that I want to explain that has a particular danger in Manila. Suppose here in Tondo in the dry season a house get on fire, the people may go ahead of the fire to the bay and no lives would be lost. But supposing that fire had started in 20, 30, 40, or 50 different places at one time. The Japanese fire department in Tokyo was fighting 72 fires practically simultaneously. The refugees were often surrounded by a ring of fire before they noted it. Thirty-four thousand people went out to an open place much like our Luneta which was surrounded by land and buildings. They brought with them what they thought were their most cherished things. But when the fire-brands began to fall on them, those inflammable articles were set on fire and these thirty-four thousand died from fire of their own creation. On the other hand, there were twelve hundred girls on the Yoshiwara that took refuge in a pond. I did not see them, but I was told that they were all dead when found and that their bodies were cooked by the hot water. The loss of life by burns, of course, was tremendous. There was a certain amount of asphyxiation. People died of gas, they were rendered unconscious. But the majority of them were actually burned alive. How are you going to prevent that over here in Manila? You have to break up your congested districts. When I say congested, I mean such conditions as in Tondo. The Japanese houses are so close together that you can jump from one to another. You can perhaps build fire breaks in the nipa districts, fire-proof and earthquake-proof buildings. Nothing of course is earthquake-proof if the earthquake is bad enough, but a steel frame with a roofing not of tile but of tin will probably withstand an average earthquake. I speak about these tile buildings because Japanese houses are of tiles laid on grass covered with mud; and when the earthquake came, it threw hundreds of thousands of tons of these tiles in the streets and did great damage to life. So that we have to regard the tile as a very dangerous missile in time of earthquake. As soon as we can do away with it and replace it with metal roofing, it will be better. In connection with the fire, the Japanese roofing made good fire-brands. I was told that the fire would take pieces of wood on fire one or two meters long and carry them in the air and drop them down on the roof of buildings which in turn are set on fire. In one instance, beyond a hospital, the river was 240 yards wide and the flame went across it. So there comes also the question of water supply for fighting fire. Fortunately, here you have many esteros. Also you have got to have more recreation parks as fire breaks. That ought to be regarded as part of the general city plan.

Now, about diseases. The development of the disease would depend on the nature of the place in which the earthquake occurred. If it is a malarial district, mosquito-bars will be needed. In Japan, the adult mosquitoes were destroyed, but more hatched out in due course of time. In Tokyo and Yokohama also the adult flies were killed. The fly larvæ in the ground were destroyed by the fire. Consequently, at the very outset, we saw practically no flies. Fortunately, at that time the weather had become cold and a second generation of flies probably would not develop. But if you have the infection of typhoid fever present you will have a big rise in mortality. The same things is true with dysentery and other water-borne diseases. This brings up the disposal of excreta. How will you do it? The best thing I can think of to meet the emergency is a trench with a place to squat and defecate in and throw the dirt back over the excreta. With you here, human excrement is a waste product, but up there in Japan it has a value, and people, householders, actually sell the excreta. Farmers take it out and put it on the farm. They have to do it in order to get enough crops on which to live. This excreta collection service was broken down. Their disposal of refuse might have been better. Trash and refuse were burned up.

The general organization of the Japanese and the way they met the catastrophe, was admirable and efficient. Very fortunately one of their laboratories was intacted and there they made their vaccines against disease. The way in which they met their difficulties was admirable. It was very difficult to realize the bravery they showed. People that were rich one day were absolutely without one cent the next day. When I say without a cent, I mean it; and they were out on the streets without a shelter over their head and nothing but the clothes on their back.

Now, should this thing happen here in Manila, who will handle it? Why, the health officers stationed down in Batangas and the men that come in from San Fernando, from Cavite, from Laguna, and as rapidly as possible the health service from Cebu or Ilolio. The Manila organization would be destroyed. Now, what do all these things mean? It is just to let you think out plans in your minds in the way of preparation as to what you may be up against in case of a severe earthquake and as to how you could meet it. But there is always some best way to meet any situation, and I earnestly hope that you, gentlemen, will think this thing over so that you can play your best part.

Those of us who have gone to Japan have seen the greatest catastrophe the world has ever seen. We hope its effects on health will be controlled. We brought up a very large amount of medical stuff. We brought up 68 hospitals with forty-one hundred beds (remember they lost 116 hospitals). We brought up a large amount of medical supplies, and we helped out very much in every way. How much medical work did we get? We got very little. Because we could not speak their language, we could not communicate. We could not ask them what their symptoms were or anything of the sort. And the Japanese felt that as long as they could get sufficient of their own personnel, they should handle their own treatments, so that their problem resolved itself to getting the professional staff and getting it quick. Ours was to organize and erect the hospitals. As soon as the tents were up, our personnel moved in and began to set up the equipment. As soon as the equipment was set up, assignments were made. Japanese doctors and nurses moved in and began to learn about the equipment from our people. For example, the Japanese who is going to handle the laboratory got in touch with our laboratory man. Our personnel moved out when he knew about the equipment furnished him.

Now, as to the personnel that came up from the Philippines. All in all, we had about three hundred American soldiers and about seventy-five Filipino representatives who came from the Red Cross, the Health Service, the Office of the Public Welfare Commissioner, civilian volunteers, the Bureau of Science, and the Rockefeller Foundation. There were men and women, nurses male and female, dentists, doctors, etc. We found that we had to organize our personnel on the basis of getting the best amount of good out of each individual, irrespective of where he came from and irrespective of nationality. So everybody was organized into teams for one purpose or another. We put them in teams in readiness to function at any time. Going up, our boat was crowded because of the fact that we were trying to get there with relief supplies as quickly as possible, and we got there quick. The situation was like a man who was hungry and could not wait for a meal for two or three weeks. Now, other countries all over the world are subscribing money. They do not make as much impression on the Japanese as our quick relief because by the time they will be ready the main emergency will be over. But we brought the relief there at the right time and in the right way. They named the hospital we built there "The American-Filipino Hospital." The Japanese, American and Filipino doctors and nurses all together were photographed in one harmonious group, and we had the American and Japanese flags flying side by side.

The spirit of our personnel was fine. They were willing to do anything to help. Our chemical experts were chifting stuff at railroad stations. Our bacteriologist was sorting out supplies for the laboratory. One of our expert surgeons was unloading ships. Everybody did his best; the nurses did their best—all showed a fine spirit. When we got everything ready, we turned the management over to the Japanese.

We came in contact with the Japanese in such a way that nobody but a crowned potentate will ever duplicate. Your Filipino representatives shook hands with the Prince Regent, who will doubtless soon be the Emperor of Japan. They are probably the first Filipinos to shake hands with the Prince Regent because an emperor up there is regarded as next to God. We were in constant touch with everybody of all classes in Japan, from the statesman and nobility down to the coolie in the streets. And I think that the expedition sent up there was not only a thing of humanity and of interest, but is a tremendous force in allayiny any ill-feelings between the peoples of the world concerned.

MISCELLANEOUS

WELCOME NURSES DELEGATES

From February 13 to 15 marks the conference of the Filipino Nurses' Association, the first of its kind, in the City of Manila. It is known that the delegates will come from the northernmost islands of Batanes and the southernmost island of Mindanao. Without respect to creed and sect, all institutions will be represented. The Philippine Health Service, school, hospital, Office of the Public Welfare Commissioner and Red Cross nurses as well as those in private life will attend.

These nurses will come from places where conditions are apt against their health, where they are apt against their drinking water supply, where their food supplies are deficient and where other sources of food are doubtful. Above all, they will come from places where their lives are exposed to a constant danger and discouragement. But lo! the nurses never get tired, discouraged, and disheartened! They possess that soothing balm inherited from the time they began to take up their profession—that habit of duty backed up with an absolute disregard of reward. Duty is their watchword, which is constantly illustrated in their daily life.

During the entire conference, these "mothers of the sick," as they may be fitly called, will be honored in various institutions of the City of Manila. Some will stay in Government hospitals and dormitories, Red Cross Headquarters and private institutions and some will be entertained in private residences. Indeed all classes of people—Government officials, private individuals as well as the laity welcome them.

During the conference, heads of the Government, scientific and medical men and public health and charity workers of wide experience in this line of work, will be heard from. These persons will undoubtedly give them profitable advices relative to the different branches of their undertakings.

These delegates will have many things to convey to the conference. The success of work as well as its failures, the methods and procedures followed and all other experiences to fit the existing conditions of their community will undoubtedly be brought out. A group of nurses will describe the campaign for maternal care and infant care. Another group will proceed to the discussion of the teaching of hygiene and sanitation, registration of births, school nursing, detection of communicable diseases, training, lectures and demonstration of unregistered midwives, and vaccination of babies. Another group will describe the health activities in schools. Still another group will describe hospital work in relation to public health. And still another group will relate the part that they have taken in coöperation with any of the foregoing groups of nurses. Plenty of interchange of impressions! Our nurses will surely get busy for this "get-in-together."

The delegates may surely get the most that they can. It is hoped that their stay, coincident with the Carnival days, will be most recreative as well as productive of important advantages. The former is advisable being a bodily necessity and a short distraction from a difficult mission. Aside from this and during their sight-seeing visits, it is suggested that they shall not fail to visit those institutions that have relation to their work as scheduled in the program. From this, they will gain new experiences that may be added to the store of knowledge that they have.

At the termination of the conference we will bid these delegates "gooo-bye" and "happy trip." We hope that when they return to their stations they will have this knowledge acquired from the conference securely placed in their "hand-bags" ready to apply them on their return to their respective stations.

They have a great humanitarian work before them indeed! In closing we have one foreword to the nurses' delegates, which we ask most kindly to take home along with them. "Patience is a most necessary virtue to possess in the work and the danger to discouragement is great, but if you are a philosopher, a humorist, and a fighter all in one, you will pull through."

HOOKWORMS CLINIC IN LEYTE

Dr. Bienvenido Caro, of the Philippine Health Service, is now conducting a hookworm campaign in the Province of Leyte. The work was started on January 9.

All people examined so far in the surveyed municipalities have parasites of some kind. The municipality of Tacloban has 90 per cent hookworm; Burauen, 90 per cent; Dulag, 92 per cent; and Carigara, 91 per cent.

A total of 1,552 persons have so far received carbon tetrachloride treatment in these four municipalities. Eight cases had tapeworms, the longest of which being one and one-half meters long.

THE PHILIPPINE HEALTH SERVICE CORRECTS MISSTATEMENT

It has been published in several daily newspapers that the Philippine Health Service will make a strict surveillance and inspection of the vessels arriving at Manila from foreign ports to detect cases of communicable diseases. For the information of the public, it must be known that no office other than the Quarantine Service is authorized to make such inspection in the Philippine Islands ports.

DR. TEE HAN KEE LECTURES ON SMALLPOX VACCINATION

The Philippine Health Service desires to make public its appreciation for the coöperation rendered by Dr. Tee Han Kee, Director of the Chinese General Hospital, in the prompt notification of the first case of smallpox that has recently arrived at Manila. Doctor Han Kee will give several conferences on smallpox vaccinations in several Chinese schools to explain the benefit of vaccination as a prophylactic measure against smallpox.

SCHOOL INSPECTION IN THE CITY OF MANILA

Dr. Rosario Pastor, of the Philippine Health Service, assigned for the inspection of the Manila East High School, reports that the work began on January 3. One school nurse and one district nurse helped in the inspection. From two to three hours daily were devoted every morning during this period.

Doctor Pastor also reports that up to January 21, of the 1,423 students examined, 762 were found having defects of some kind, 468 of which were dental caries and 19 affected with trachoma. All the trachoma cases were referred to the trachoma clinic and the rest of the cases were either given prescription or advised to report to the school clinic.

Doctor Pastor with two school nurses and one district nurse is now making inspection of the Manila North High School.

EMBALMER'S EXAMINATION

The next examination for embalmers will be held on March 14, 1924. The applicants will send their applications to the Philippine Health Service with all necessary credentials before or not later than one week before the date of the examination.

MASBATE ANNUAL HEALTH REPORT SUBMITTED

Doctor Amorsolo, district health officer of Masbate, has submitted his annual report to the Director of Health for the fiscal year 1923.

Doctor Amorsolo also reports that the general death rate for 1923 is 9.4 as compared with 10.9 per 1,000 population for the last few years. The infant mortality is 70 for 1923 as compared with 99 per 1,000 births for the past five years.

All the municipalities are provided with dispensaries. A total of 995 persons, 264 of whom are children and 731 adults were treated either in the dispensaries or at their homes. One hundred twenty-three cases of tropical ulcers were also treated.

The most prevailing diseases of the year were typhoid fever, dysentery and influenza, malaria, and pulmonary tuberculosis. A total of 2,243 mostly school children received antityphoid vaccination.

MASSEUR'S EXAMINATION

It is hereby announced that an examination for masseurs will be held at San Lazaro Hospital, Manila, on February 15, 1924, from 8 a. m. to 12 noon. All desiring to take the examination will send their applications to the Director of Health not later than one week before the date of the examination.

ANNUAL REPORT OF THE PRISON SANITATION DIVISION

Doctor Tietze, chief of the prison sanitation division, has just submitted his annual report for 1923 to the Director of Health. He reports that the division takes care of prisoners located at Bilibid, Iwahig Penal Colony, San Ramon Penal Colony, Fort Mills, Manila Police Station, some provincial jails and Constabulary stations, and San Lazaro Hospital. Prison hospitals are only located in the preceding first five places.

Doctor Tietze reports that a general death rate of 9.8 per 1,000 population occurred for the year, which is lower than that of last year. A total of 5,249 were admitted in the various hospitals for treatment; and 24 major and 132 minor operations were performed. The clinics gave 51,502 treatments. Fifty prisoners died of pulmonary tuberculosis, the highest mortality of all diseases. There were 10,532 prescriptions filled; and 4,304 stools, 3,547 urine and other discharges, and 1,067 blood examinations were done. In Bilibid alone there were 4,613 inoculations against smallpox, 1,267 against cholera, and 1,253 against typhoid. Most of the work was done at Bilibid Hospital.

Among the recommendations, the drilling of one artesian well and the increase of two additional male and female nurses each are recommended for Bilibid Hospital.

NO CHOLERA IN MANILA

Much alarm and fear was felt among the public through the local press for the last two days with regard to the three suspected cases of cholera that were reported by the Philippine Health Service.

The first suspected case, a child six years old, that died occurred at San Juan del Monte, Rizal, and reported by the president of the sanitary division of that municipality on February 11, 1924, which diagnosis was later confirmed to be a case of acute gastro-enterities only and *not* cholera.

The other two suspected cases of cholera reported on February 12, 1924, which occurred in two little girls from Bilibid, now confined at San Lazaro Hospital, were also found to be cases of gastro-enteritis and *not* cholera. These girls are now well in that institution.

For this reason, the public must know that cholera does not exist in Manila now, and there is no reason for such an alarm.

ANNUAL REPORT OF THE SANITARY ENGINEER

Mr. Mañosa, acting sanitary engineer of the Philippine Health Service, reports that for the year 1923, 1,195 building plans and 653 permits for light and mixed structures were approved. A total of 614 of the former were completed; and 477 orders and 1,537 plumbing permits were issued.

Mr. Mañosa also reports that for the month of January, 140 applications for strong material and 136 for light material construction were received, and 80 plumbing permits were issued.

DENTAL CLINIC IN LAGUNA

Doctor Carlos, provincial dentist of the Province of Laguna, reports that for the month of January 178 persons received treatments of whom 53 were females and 125 males. A total of 38 extractions and 7 fillings were done.

ILOILO ANNUAL HEALTH REPORT

The Annual Report for 1923 submitted by Doctor Santos, district health officer of Iloilo to the Director of Health, shows a general death rate in the whole province of 19.2 for 1923 as compared with 27.9 for the past five years per 1,000 population and an infant mortality of 122.4 as compared with 158.4 for the past five years per 1,000 births. The decrease in each case is very apparent.

There are 60 dispensaries in operation during the year. Every municipality is supplied with one or more public dispensaries. A total of 2,600 treatments and 7,578 consultations were registered for the year. A total of 1,976 laboratory examinations were made. Ninety-five cases of ulcers were treated as compared with 198 cases last year.

The most common diseases during the year were pulmonary tuberculosis and malaria.

NO SMALLPOX IN MANILA

The news published by some daily newspapers that smallpox in Manila at this time is becoming alarming and approaching an epidemic *is not true.*

This office has no information of any recent case of smallpox except that of a Chinese just arrived from China, where he unquestionably acquired his infection, and another Chinese in Manila who was associated with this first case. These two cases were reported on January 19 and 29, 1924, respectively. No other case has occurred in Manila, so far as this office knows, since December 11, 1921. Therefore, the items in the newspapers obviously conflicts with the information of the Philippine Health Service.

MALARIA CAMPAIGN IN PAMPANGA

Mr. Tiedeman, sanitary engineer of the Rockefeller Foundation incharge of malaria campaign working at Del Carmen, Pampanga, reports that for the month of January, the experiment at Anoun in the use of mosquito nets and in quinine prophylaxis has been carried on very satisfactorily throughout the month. A similar experiment with a larger group of laborers living in a section where malaria incidence is normally very high, has just been started at Pabanlag, a barrio of Floridablanca.

Mr. Tiedeman also reports that malaria incidence at Pabanlag is unusually low during the past month although there is a tendency for it to increase. The only other observation of note is that the larvæ of *A. Minimus* which have been very scarce during the past six months, have begun to put in an appearance.

STERILIZATION OF MILK AT SAN LAZARO HOSPITAL

Doctor Gavino, Chief of San Lazaro Hospital of the Philippine Health Service, reports that from December 10, 1923, to January 30, 1924, a total of 8,027 bottles of fresh milk belonging to 929 milk vendors were sterilized at San Lazaro Hospital.

ILOCOS SUR HEALTH ANNUAL REPORT

Doctor Zandueta, district health officer of Ilocos Sur, reports that for the year 1923, the general death rate is 15.6 as compared with an average rate of 23.8 per 1,000 population for the past five years; and an infant mortality rate of 128.3 as compared with 184.9 per 1,000 births for the past five years. The decrease in each case is very apparent.

Cases of dysentery were registered in the southern municipalities of Santa Lucia, Candon, Santa Cruz, and Santa; and in the northern municipalities of Magsingal and Lapog. The existence of dysentery in these places is attributable to the unsafe drinking water supply, which comes from surface wells and river which oftentimes become polluted because of frequent floods. Vigan is the only municipality that has a waterwork.

A total of 13,286 anticholera, 6,987 antityphoid, and 94,759 antismallpox vaccinations, were performed.

The 23 dispensaries in the municipalities and barrios have given 5,615 consultations and 550 treatments and have done 537 minor operations. The two district nurses have given 538 infant and 64 artificial feedings.

There were 217 cases of yaws found in the municipalities of Caoayan, Vigan, and Santa Maria. All these cases received intravenous injections of neosalvarsan. Tropical ulcer was prevalent among school children especially in Santa where a dispensary for this purpose was opened.

Among the school children 3,073 dental caries, 447 cases of tonsilitis, 422 ulcers, and 170 contagious eye diseases were found.

DISTRIBUTION OF ASSORTED VACCINES AND SERA

Doctor Mencias, acting chief of the office of property of the Philippine Health Service, reports that the following assorted vaccines and sera have been distributed in Manila and in the provinces, antidiphtheric serum 441,000 units; antidysenteric serum 472 ampoules; antitetanic serum 260,000 units; normal horse serum 50 ampoules; gonococcus vaccine 180 ampoules; cholera vaccine 10,400 c. c.; mixed cholera-typhoid vaccine 61,800 c. c.; typhoid vaccine 27,660 c. c.; fresh vaccine virus 252,500 units; and dried vaccine virus 48,800 units. These cost ₱20,018.

PACO HEALTH STATION HAS MOVED

The Philippine Health Service desires to announce to the public that Paco Health Station was moved to No. 16 Santiago Street, Paco, on February 15, 1924. People of the district needing medical assistance will call on the foregoing address.

ANNUAL HEALTH REPORT OF THE OFFICE OF GENERAL INSPECTION

Doctor Villafranca, Chief of the Office of General Inspection of the Philippine Health Service, reports that 39 provinces and 356 municipalities were inspected by the three district inspectors during the year.

Doctor Villafranca also reports that 26,606 physical examinations were made in the schools south of the Pasig River, of which 48 per cent were found to have defective teeth, 6 per cent with skin diseases, 6 per cent with eye diseases, and 1 per cent with defective hearing. The total number of treatments were 14,668.

He also reports that out of 42,111 enrolled in the school north of the Pasig River, only 21,757 were physically examined for lack of personnel. A total of 43,741 treatments and 645 surgical operations were performed.

COTABATO ANNUAL HEALTH REPORT

Doctor Roque, district health officer of Cotabato, in submitting the annual report of his district for 1924, reports that the general death rate is 3.37 as compared with 9.57 for the past five years per 1,000 population, and an infant mortality rate of 199.4 as compared with 100.8 for the past five years per 1,000 births. There is an apparent decrease of the general death rate and an increase of infant death rate.

There are 17 dispensaries throughout the whole province, three of which are for contagious diseases. A total of 24,022 dispensary cases as against 20,177 cases for 1922 were registered; and 64,838 treatments as against 57,237 of last year. The Cotabato Public Hospital has a total admission of 943 as against 550 of last year. The increase of admission and treatments are very apparent. It is very pleasing to see the Moros walking by bunch in the street early in the morning going to the hospital and trying to be in the list of those to receive medical treatments.

A total of 707 injections against typhoid and cholera vaccinations were performed as compared with 3,772 in 1922. A total of 16,707 antismallpox vaccinations of which 40.4 per cent are positives.

Malaria is predominant. A total of 3,115 cases was registered, the municipalities of Cotabato, Glan, and Kiamba having the most number of cases. This is attributable to the low swampy places where people live, which are favorable for mosquito breeding.

Yaws is also very common. A total of 2,217 cases was registered for the year, 1,893 of whom were non-Christians. All persons suffering from this disease gladly submit themselves to intravenous injections of asphernamin. It is common in Cotabato, Dulawan, Piket, Peidu, Pulangi, Baleng, and Kabalasan.

Skin diseases as the tinea circinata and tinea imbricata are also common, which easily to salicylic acid solution.

The Cotabato Public Hospital water tank with a capacity of 140,000 liters was completed on September 26, 1923, which costs ₱9,840.89. This is one of the sanitary improvements made during the year.

THE PHILIPPINE HEALTH SERVICE ENTERTAINS JAPANESE OFFICERS

The three Japanese officers are being entertained by the Philippine Health Service. A program for a sight-seeing trip has been prepared for them. Doctor Intengan, of the Service has been designated to be the medical aide who will show them all places of interest that they may want to see.

That already made a trip to the city water reservoir and health stations in Manila. Next week they propose to see the progress of the malaria campaign at Del Carmen, Pampanga, which is under the charge of Sanitary Engineer Tiedeman in coöperation with the Philippine Health Service. They will also go to Mariveles to see the quarantine station there. Later they will visit other points of interest.

DOCTOR KIERULF LEAVES FOR TAYABAS

Doctor Kierulf, district inspector of the Philippine Health Service, will leave at the first available transportation to inspect the general sanitary conditions of the Province of Tayabas.

HEALTH SERVICE MEN DID NOT TAKE PART IN THE DESTRUCTION OF BATHING TANK OF THE COLORUMS

Doctor Marcos Corpus, district health officer of Surigao, in his written statement submitted to the Director of Health, desires to make it clear that the Health Service employees of that locality did not take part in the destruction of the "Bathing Tank of the Colorums" as erroneously published by some of the local newspapers.

Doctor Corpus states further that it is true that Dr. Hipolito Veloso, president of the second sanitary division of the province, one Constabulary Captain and Mr. Siapit, academic supervisor of the Bureau of Education, took a bath in the tank. The health officials never had any trouble with the Colorums.

A HEALTH SURVEY OF CITY SCHOOLS

Doctors Arenas, Griffin, and Pastor, of the Philippine Health Service, have been directed to conduct a health survey of all schools in the City of Manila with a view to determining the deficiency of said schools as regards hygiene and sanitation, such as the inadequate ventilation, poor toilet and washing facilities, absence of individual drinking cups. The work will be started soon.

CHANGES OF WORK AND STATIONS OF PERSONNEL

Dr. H. Windsor Wade, chief pathologist and acting chief physician, Culion Leper Colony, has been relieved from duty in Culion as acting chief physician, effective the date Dr. Casimiro B. Lara, who has been assigned as such, assumes his duty.

Medical Inspector Juan Fernando has been relieved from further duties in the division of metropolitan sanitation, and directed to proceed by first available transportation to Malolos, Bulacan, to relieve Senior Medical Inspector Robert B. de Leon as district health officer of that district.

Senior Medical Inspector Roberto B. de Leon has been assigned as medical officer in Tondo Health Station of the City of Manila.

HOOKWORM CAMPAIGN IN LEYTE

Surgeon Bienvenido Caro has returned from Leyte where he has conducted a hookworm campaign in the municipalities of Tacloban, Borawen, Dulag, Tanawan, Carigara, and Ormoc. In all these municipalities he obtained from 90 per cent and above of hookworm infection, and in the municipality of Ormoc 100 per cent obtained. Three tapeworms were found.

The campaign was conducted among prisoners, students, and employees, as well as among the residents of these respective places.

A total of 567 stools were examined and 2,835 treatments were made.

The campaign was a success. As a result, more sanitary toilets were built and the municipality of Ormoc has approved an ordinance for public midden sheds.

FILIPINO CONTINGENT OF THE MEDICAL RESERVE CORPS OF THE UNITED STATES ARMY

So far only 22 Filipino applicants for Medical Reserve Corps Commissions have actually appeared before the Examining Board at Sternberg Hospital for their mental and physical examination. Ten other applicants have already been notified but have not yet reported in person. Application blank forms have been sent to another 30 physicians, but they have not been returned to the proper authorities.

The formation of a Filipino contingent of the Medical Reserve Corps so as to get ready especially in cases of catastrophes is very necessary. The call is urgent. Enlistment has been started for some time. Every physician should act immediately. Physicians having the required qualifications are therefore requested to fill out their applications, which will be sent to Surgeon J. M. Kennedy, Philippine Department, U. S. Army, Manila, and those who have no copies yet shall request the same from the Director of Health.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of February, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1923[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, FEBRUARY, 1924

Date	Pressures[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
-10	760.74	25.6	33.4	8,9	19.9	1	27.4	27.8
1-20	59.54	25.6	33.6	11,19	19.0	15,18	27.7	28.1
21-29	60.71	25.9	33.1	21	19.3	28	28.1	28.5

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	73.8	79.1	3	66.2	6
11-20	72.8	76.3	16	69.4	13
21-29	75.2	80.8	23	71.9	28

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[1] Corrected from instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, FEBRUARY, 1924—Continued

Date	Wind				Atmidometer[1] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	E quad.	1,729.0	233.0	6	49.2	6.6	6
11-20	SE	1,726.0	228.5	14	53.3	6.1	12,18
21-29	SE	1,525.0	237.0	22	43.1	6.3	23

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	74 40	9 40	9	0.9	1
11-20	66 10	8 45	14	0	0
21-29	43 40	9 00	22	0.3	1

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[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above the ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	4	3	7	28.13
Filipinos	550	496	1,046	46.76
Spaniards	....	1	1	6.44
Other Europeans	2	2	4	44.74
Chinese	36	35	71	50.08
All others	3	5	8	46.09
Total and average	595	542	1,137	46.49

BIRTHS BY DISTRICTS

Health districts—	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	79	84	163	5	6	11	174	57.86
No. 2, Meisic	118	111	229	10	10	20	249	29.73
No. 4, Sampaloc	119	103	222	12	4	16	238	59.96
No. 5, Tondo	183	165	348	11	11	22	370	57.06
No. 6, Paco	56	45	101	2	3	5	106	40.48
Total	555	508	1,063	40	34	74	1,137	46.49

Number of births attended by physicians, living, 239; stillbirths, 25.
Number of births attended by midwife, living, 123; stillbirths, 1.
Number of births attended by family, living, 775; stillbirths, 14.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	....	2	8.04
Filipinos	394	310	704	31.47
Spaniards	2	....	2	12.88
Other Europeans	1	1	2	22.37
Chinese	24	3	27	19.04
All others	....	....	....	....
Total and average	423	314	737	30.14

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	108	81
Divorced	....	....
Widowed	37	45
Single	338	237
Conditions not stated	5	1
Total	488	364
Grand total	852	

Stillbirths	40
Number of deaths with medical attendance	403
Number of deaths without medical attendance	449

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	46	22	1	1	70
30 days to under 1 year	83	77	21	18	199
1 year to under 2 years	67	41	5	7	120
2 years to 4 years	33	36	3	5	77
5 years to 9 years	7	9	1	1	18
10 years to 14 years	3	1	2	1	7
15 years to 19 years	15	8	3	1	27
20 years to 29 years	36	17	8	1	62
30 years to 39 years	23	29	4	7	63
40 years to 49 years	25	23	3	2	53
50 years to 59 years	25	12	9	4	50
60 years to 69 years	30	16	2	1	49
70 years to 79 years	15	8	....	....	23
80 years to 89 years	11	9	....	....	20
90 years to 99 years	3	6	....	....	9
100 years and over	....	....	1	....	1
Age not stated	1	....	....	....	1
Total	423	314	63	49	849

NOTE.—Three (3) Filipinos, 2 males of 50 years and of unknown age respectively and 1 female of unknown age, permanent residence unknown not included in the above table.

DEATHS AND DEATH RATE PER 1,000, BY DISTRICTS, INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	138	45.89
No. 2, Meisic	114	13.61
No. 4, Sampaloc	141	35.52
No 5, Tondo	378	58.30
No. 6, Paco	81	30.93
Total and average	852	34.84

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			6	5					3				14
4. Malaria			1	1									2
6. Measles				4									4
9. Diphtheria and croup			3	2									5
10. Influenza			8	9			1						18
14. Dysentery			8	5									13
17. Leprosy			3										3
19. Other epidemic diseases				1									1
20. Purulent infection and septicæmia			2										2
23. Rabies			1	1									2
24. Tetanus			4	2									6
27. Beriberi			1	1									2
27a. Beriberi, infantile			22	24					1				47
28. Tuberculosis of the lungs			64	46					4	2			116
29. Acute miliary tuberculosis			1	1									2
30. Tuberculous meningitis			5	3									8
31. Abdominal tuberculosis			3	2					2				7
34. Tuberculosis of other organs			1										1
35. Disseminated tuberculosis				1				1					2
39. Cancer and other malignant tumors of the buccal cavity			2	2									4
40. Cancer and other malignant tumors of the stomach, liver			2										2
42. Cancer and other malignant tumors of the female genital organs				3									3
43. Cancer and other malignant tumors of the breast				4									4
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1
47. Acute articular rheumatism				1									1
51. Exopthalmic goitre			1										1
54. Anaemia, chlorosis			2										2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
61. Simple meningitis:													
(1) Simple meningitis	.....	.....	9	10	.....	.....	.....	.....	.....	.....	.....	.....	19
(2) Cerebro-spinal meningitis (undefined)	.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	3
64. Cerebral hæmorrhage, apoplexy	.....	.....	3	9	1	.....	.....	.....	.....	.....	.....	.....	13
65. Softening of the brain	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
66. Paralysis without specified cause	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	3
68. Other forms of mental alienation	.....	.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	6
71. Convulsions of infants (under 5 years of age)	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2
III. Diseases of the circulatory system													
78. Acute endocarditis	1	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	4
79. Organic diseases of the heart	.....	.....	6	4	.....	.....	.....	.....	3	.....	.....	.....	13
80. Angina pectoris	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
81. Diseases of the arteries, atheroma, aneurysm, etc	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	2
IV. Diseases of the respiratory system													
89. Acute bronchitis	.....	.....	42	25	.....	.....	.....	.....	.....	.....	.....	.....	67
90. Chronic bronchitis	.....	.....	13	7	.....	.....	.....	.....	.....	.....	.....	.....	20
91. Broncho-pneumonia	.....	.....	35	41	.....	.....	.....	.....	1	.....	.....	.....	77
92. Pneumonia	1	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
93. Pleurisy	.....	.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	4
96. Asthma	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	4
V. Diseases of the digestive system													
102. Ulcer of the stomach	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2
103. Other diseases of the stomach (cancer excepted)	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
104. Diarrhœa and enteritis (under 2 years)	.....	.....	23	15	.....	.....	.....	.....	1	.....	.....	.....	39
105. Diarrhœa and enteritis (2 years and over)	.....	.....	5	4	1	.....	.....	.....	1	.....	.....	.....	11
108. Appendicitis and typhlitis	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
113. Cirrhosis of the liver	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2
115. Other diseases of the liver	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
117. Simple peritonitis (nonpuerperal)	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			8	2					1				11
120. Bright's disease			7	13					1				21
122. Other diseases of the kidneys and annexa			1										1
124. Diseases of the bladder			1										1
130. Other diseases of the uterus				1									1
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				4									4
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			4	3						1			8
(2) Congenital debility			40	19									59
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			2										2
XII. Old age													
154. Senility			22	14									36
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)			1						1				2
169. Accidental drowning			2						1				3
183. Homicide by cutting or piercing instruments			1	1									2
185. Fractures (cause not specified)				1									1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			3	1									4
Total	2		394	310	2		1	1	24	3			737
Grand total	2		704		2		2		27				737

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others*		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			5	3					1				9
4. Malaria	1			1									2
6. Measles										1			1
9. Diphtheria and croup				1									1
10. Influenza				1									1
14. Dysentery			1	1					1				3
24. Tetanus			3										3
27a. Beriberi, infantile			6	6									12
28. Tuberculosis of the lungs			3	2					1				6
29. Acute miliary tuberculosis			1										1
31. Abdominal tuberculosis				1									1
40. Cancer and other malignant tumors of the stomach, liver			1										1
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1
50. Diabetes				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			3	2									5
(2) Cerebro-spinal meningitis (undefined)			2										2
68. Other forms of mental alienation				1									1
69. Epilepsy			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			1										1
79. Organic diseases of the heart			1					1	1				3
IV. Diseases of the respiratory system													
89. Acute bronchitis			2	6									8
91. Broncho-pneumonia			8	8									16
92. Pneumonia			2	1									3
93. Pleurisy			1										1

V. Diseases of the digestive system													
103. Other diseases of the stomach (cancer excepted)			1										1
104. Diarrhœa and enteritis (under 2 years)			3	4									7
113. Cirrhosis of the liver			2										2
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1										1
120. Bright's disease	1			1									2
123. Calculi of the urinary passages			1										1
124. Diseases of the bladder			1										1
129. Uterine tumor (noncancerous)		1											1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
136. Other accidents of labor				1									1
137. Puerperal septichæmia				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility			2	1									3
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			1										1
XIII. Affections caused by external causes													
172. Traumatism by fall									1				1
186. Other external violence			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1	1									2
Total	2	1	56	46				1	5	1			112
Grand total	3		102				1		6				11

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
1. Typhoid fever					1	1
10. Influenza					5	5
14. Dysentery					2	2
20. Purulent infection and septichæmia					1	1
24. Tetanus				3	1	4
27a. Beriberi, infantile				4	55	59
28. Tuberculosis of the lungs					1	1
30. Tuberculous meningitis					2	2
31. Abdominal tuberculosis					1	1
34. Tuberculosis of other organs					1	1
61. Simple meningitis:						
(1) Simple meningitis					6	6
(2) Cerebro-spinal meningitis (undefined)					2	2
71. Convulsions of infants					2	2
79. Organic diseases of the heart					1	1
89. Acute bronchitis					41	41
90. Chronic bronchitis					10	10
91. Broncho-pneumonia					27	27
104. Diarrhœa and enteritis					27	27
117. Simple peritonitis (nonpuerperal)					1	1
119. Acute nephritis					1	1
120. Bright's disease					1	1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not still-born)	2	1		2	3	8
(2) Congenital debility	17	4		19	22	62
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy				2	1	3
Total	19	5		30	215	269

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	18,542
Number of rats caught by spring traps	2,786
Number of cage wire traps set	597
Number of rats caught by cage wire traps	1
Number and kind of baits (coconuts)	19,308
Number of poison portions placed	15,389
Number of rats found poisoned	309
Number of rats killed by clubs, and other weapons	737
Number of rats found dead from other causes	629
Total number of rats otherwise caught, found dead, or killed	4,462
Total number of rats sent to the laboratory for examination	4,462
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF FEBRUARY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	8	3	13	3	8	0	8	2	5	0	15	6	57	14
Female	1	0	9	3	1	0	10	2	5	0	13	3	39	8
Home:														
Male	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	8	3	13	3	8	0	8	2	6	1	15	6	58	15
Female	1	0	9	3	1	0	10	2	5	0	13	3	39	8
Grand total	9	3	22	6	9	0	18	4	11	1	28	9	97	23

REMARKS:

Total cases reported within the month in the City of Manila		112
Resident cases	80	
Non-resident cases	32	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		23
Deaths among resident cases	14	
Deaths among non-resident cases	9	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		96
By autopsy	1	
By blood culture	2	
By clinical symptoms	74	
By feces examination	4	
By widal reaction	15	
Cases confirmed as paratyphoid fever		1
Cases not confirmed		15

Carriers—None.

DYSENTERIES REPORTED DURING THE MONTH OF FEBRUARY, 1924, CITY OF MANILA
CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	2	1	1	0	2	0	4	2	1	1	3	2	13	6
Female	0	0	1	1	2	1	2	1	0	0	3	1	8	4
Home:														
Male	0	0	1	1	4	1	3	2	0	0	0	0	8	4
Female	0	0	0	0	4	2	0	0	0	0	0	0	4	2
Total:														
Male	2	1	2	1	6	1	7	4	1	1	3	2	21	10
Female	0	0	1	1	6	3	2	1	0	0	3	1	12	6
Grand total	2	1	3	2	12	4	9	5	1	1	6	3	33	16

REMARKS:

Total cases reported within the month in the City of Manila		41
Resident cases	36	
Non-resident cases	5	
Total deaths reported within the month in the City of Manila		16
Deaths among resident cases	13	
Deaths among non-resident cases	3	
Cases not confirmed as dysentery		8

CHOLERA REPORTED DURING THE MONTH OF FEBRUARY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases and suspected cases reported within the month in the City of Manila		4
Resident cases	3	
Non-resident cases	1	
Foreign cases	0	
Resident cases confirmed as cholera	0	
Non-resident cases confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	1	
Deaths among non-resident cases	0	

Cholera carriers, 1

DIPHTHERIA REPORTED DURING THE MONTH OF FEBRUARY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths3
Hospital:														
Male	2	0	2	0	1	0	3	2	1	1	0	0	9	3
Female	2	1	0	0	0	0	1	1	0	0	3	1	6	3
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	2	0	2	0	1	0	3	2	1	1	0	0	9	3
Female	2	1	0	0	0	0	1	1	0	0	3	1	6	3
Grand total	4	1	2	0	1	0	4	3	1	1	3	1	15	6

REMARKS:

Total cases reported within the month in the City of Manila		28
Resident cases	22	
Non-resident cases	6	
Resident cases not confirmed as diphtheria	10	
Non-resident cases not confirmed as diphtheria	3	
Total deaths reported within the month in the City of Manila		6
Deaths among resident cases	5	
Deaths among non-resident cases	1	

Diphtheria carriers, 5

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3	1	1	1
Varioloid	...	...	...	...
Varicella	15	22	...	...
Smallpox	...	...	...	...
Measles	28	31	...	4
Whooping cough	...	...	...	...
Influenza	22	16	9	9
Bubonic plague	...	...	...	...
Beriberi	1	1	1	1
Beriberi, infantile	23	24	23	24
Pulmonary tuberculosis	123	93	69	49
Tuberculosis of all forms	11	7	11	7
Encephalitis lethargica	...	1	...	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3	1	1	1
Varioloid	...	...	...	...
Varicella	12	7	...	...
Smallpox	...	...	...	...
Measles	5	2	...	1
Whooping cough	...	...	...	...
Influenza	4	1	...	1
Bubonic plague	...	...	...	...
Beriberi	...	...	...	...
Beriberi, infantile	6	6	6	6
Pulmonary tuberculosis	[a]18	8	[a]6	2
Tuberculosis of all forms	...	1	...	1
Encephalitis lethargica	...	...	...	...

[a] One permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF FEBRUARY, 1924

Sera and vaccines	On hand February 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	...	450,000	450,000	400,000	50,000
Anti-dysenteric serum (ampoules)	222	...	222	91	131
Anti-tetanic serum (units)	12,000	332,000	344,000	344,000	...
Cholera vaccine (c. c.)	3,900	21,000	24,900	11,900	13,000
Dried vaccine virus (units)	10,700	40,000	50,700	45,200	5,500
Fresh vaccine virus (units)	136,800	228,000	364,800	262,700	102,100
Conococcus vaccine (ampoules)	24	50	74	74	...
Mixed cholera-typoid vaccine (c. c.)	4,830	57,810	62,640	60,310	2,330
Normal horse serum (ampoules)	12	50	62	62	...
Typhoid vaccine (c. c.)	3,440	21,000	24,440	16,710	7,730

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	836	162	631	43
Meisic	6,518	247	6,125	146
Sampaloc	1,425	171	1,226	28
Tondo	1,937	283	1,613	41
Paco	2,715	127	2,520	68
Total	13,431	990	12,115	326

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	151	45	22	27	33	129	206	201
Meisic	187	9	195	146	1,065	1,352	1,447	1,507
Sampaloc	154	25	1	....	56	34	211	59
Tondo	272	42	42	20	41	262	355	324
Paco	110	25	....	1	27	131	137	157
Total	874	146	260	194	1,222	1,908	2,356	2,248

Vaccine virus:	
Received	16,850
Used	14,050
Remained	2,800

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1924

See consolidated table of MIXED VACCINATIONS in the City of Manila

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1924

Districts	Number of injections made in					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	....	....	....	....	390	84
No. 2, Meisic	....	....	....	....	472	113
No. 4, Sampaloc	....	....	....	....	325	153
No. 5, Tondo	88	76	51	73	198	217
No. 6, Paco	....	....	....	....	316	492
Total	88	76	51	73	1,701	1,059

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1924—Continued

Districts	Number of injections made in						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	279	89	......	......	842
No. 2, Meisic	......	......	......	......	505	128	......	......	1,215
No. 4, Sampaloc	......	......	......	......	297	196	......	......	971
No. 5, Tondo	124	65	115	69	417	241	353	308	1,078
No. 6, Paco	......	......	......	......	538	414	......	......	1,760
Total	124	65	115	69	2,036	1,068	353	308	5,864

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injections see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF FEBRUARY, 1924

Districts	Number of injections made in					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	797	109	652	113	....	....
No. 2, Meisic	559	158	668	172	....	....
No. 4, Sampaloc	415	303	365	251	....	....
No. 5, Tondo	320	210	146	143	....	....
No. 6, Paco	493	433	233	227	....	....
Total	2,584	1,213	2,064	906	....	....

Districts	Number of injections made in						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	357	80	375	106	....	....	1,848	1,246	([a])
No. 2, Meisic	710	141	766	156	....	....	1,568	1,762	....
No. 4, Sampaloc	481	349	467	257	....	....	1,548	1,340	....
No. 5, Tondo	360	188	242	119	....	....	1,078	650	....
No. 6, Paco	808	525	408	254	....	....	2,254	1,122	....
Total	2,711	1,283	2,258	892	....	....	7,791	6,120	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

[a] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	2,507	548	1,358	601
Agusan	1,994	381	384	779
Albay	28,754	4,133	17,569	7,052
Bataan	1,678	169	957	552
Batangas	24,517	3,070	15,686	5,761
Bohol	29,762	5,966	14,346	9,450
Bukidnon	757	142	299	316
Bulacan	6,496	2,041	2,237	2,218
Camarines Sur	1,866	487	609	770
Capiz	4,243	1,320	1,804	1,119
Catanduanes	1,356	509	314	533
Cavite	4,098	1,198	869	2,031
Cebu	17,454	5,961	5,100	6,393
Davao	259	250	2	7
Ilocos Norte	9,361	1,875	4,932	2,554
Ilocos Sur	7,379	1,195	3,691	2,493
Iloilo	16,410	5,553	6,463	4,394
Isabela	1,040	318	320	402
Laguna	6,401	1,376	2,324	2,701
Lanao	1,003	140	652	211
La Union	2,431	900	881	650
Marinduque	2,267	330	1,309	628
Masbate	1,556	311	702	543
Mindoro	932	168	421	343
Nueva Ecija	5,203	1,087	810	3,306
Nueva Vizcaya	2,765	442	1,185	1,138
Occidental Negros	4,728	2,195	1,401	1,132
Oriental Negros	5,247	1,130	2,201	1,916
Pampanga	29,882	4,329	24,002	1,551
Pangasinan	17,001	5,905	2,181	8,915
Rizal	9,499	1,960	4,860	2,679
Romblon	1,563	379	122	1,062
Samar	6,359	1,079	4,214	1,066
Sulu	411	137	184	90
Surigao	911	190	323	398
Tarlac	3,204	740	1,250	1,214
Tayabas	7,157	1,766	3,178	2,213
Zamboanga	5,767	1,173	3,801	793
Total	274,218	60,853	133,391	79,974

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	133	44	469	259	549	681	1,151	984
Agusan	31	21	71	108	104	154	206	283
Albay	1,362	409	2,387	1,249	8,963	5,656	12,662	7,314
Bataan	168	52	254	164	499	519	921	735
Batangas	783	130	2,241	393	6,204	4,252	9,228	4,775
Bohol	885	206	2,644	815	8,406	5,814	11,935	6,835
Bukidnon	.....	.....	5	20	55	342	60	362
Bulacan	767	106	1,451	309	1,670	1,076	3,888	1,491
Camarines Sur	144	97	323	245	519	844	986	686
Capiz	228	43	826	393	1,070	1,061	2,124	1,497
Catanduanes	241	80	159	109	106	123	506	312
Cavite	524	50	680	134	1,899	822	3,103	1,006
Cebu	1,781	1,139	2,685	850	2,493	2,039	6,959	4,028
Davao	3	....	21	13	177	45	201	58
Ilocos Norte	383	60	1,264	212	2,506	2,668	4,153	2,940
Ilocos Sur	345	54	1,239	404	2,335	1,607	3,919	2,065
Iloilo	1,543	499	2,510	707	5,053	2,585	9,106	3,791
Isabela	19	16	152	184	203	268	375	468
Laguna	490	69	1,105	317	1,717	1,990	3,312	2,376
Lanao	66	8	246	36	266	42	578	86
La Union	258	83	537	216	164	514	959	813
Marinduque	122	45	189	103	882	503	1,193	651
Masbate	58	21	141	34	257	220	456	275
Mindoro	69	12	157	54	296	183	522	249
Nueva Ecija	854	132	617	353	1,167	1,067	2,638	1,552
Nueva Vizcaya	237	22	553	105	1,320	403	2,110	530
Occidental Negros	743	233	950	411	701	270	2,394	914
Oriental Negros	437	96	1,871	679	3,765	2,258	6,073	3,033
Pampanga	1,170	79	4,173	704	11,909	9,298	17,252	10,081
Pangasinan	3,003	468	4,222	1,204	3,755	2,531	10,980	4,203
Rizal	887	203	1,189	451	2,246	2,038	4,322	2,692
Romblon	71	25	247	137	537	329	855	491
Samar	232	88	1,151	290	3,681	896	5,064	1,274
Sulu	8	2	37	5	266	84	311	91
Surigao	9	15	67	81	212	229	288	325
Tarlac	413	97	445	289	494	773	1,352	1,159
Tayabas	501	121	1,210	347	2,655	1,369	4,366	1,837
Zamboanga	22	44	105	273	270	1,700	397	2,017
Total	18,990	4,869	38,544	12,657	79,371	56,753	136,905	74,279

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	1,481	1,212	15	2	....	....
Bulacan	23	12	....	....	....	....
Cebu	....	....	91	64	....	....
Laguna	50	10	24	9	....	....
Pangasinan	53	24	....	....	....	....
Rizal	....	....	11	8	....	....
Total	1,607	1,258	141	83	....	....

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924—Continued

Provinces	Number of injections made in						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	1,409	1,189	....	3	....	....	5,291	20	....
Bulacan	69	35	....	....	....	....	139	....	....
Cebu	....	....	65	56	....	....	....	276	....
Laguna	55	22	35	6	....	....	137	74	....
Pangasinan	44	16	....	....	....	....	137	....	....
Rizal	....	....	11	11	....	....	....	41	....
Total	1,577	1,262	111	76	....	....	5,704	411	....

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYHPOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	42	20	42	20	21	4
Bulacan	93	42	74	37	66	35
Camarines Sur	186	43	82	24	7	....
Laguna	88	64	51	4	16	....
Pangasinan	228	139	42	16	27	12
Rizal	96	1	35	1	18	....
Total	733	309	326	102	155	51

Provinces	Number of injections made in						Total No. injectted		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	14	31	14	31	2	11	107	107	38
Bulacan	101	56	91	49	80	45	292	251	226
Camarines Sur	162	38	50	34	....	....	429	190	7
Laguna	132	264	59	13	22	3	548	127	41
Pangasinan	164	84	30	14	20	7	615	102	66
Rizal	85	1	30	....	12	....	183	66	30
Total	658	474	274	141	136	66	2,174	843	408

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in					
	Males					
	First injections		Second injections		Third injection	
	A.	C.	A.	C.	A.	C.
Camarines Sur	10	7	13	......	......	......
Cebu	324	28	103	11	......	......
Ilocos Sur	348	114	796	101	365	......
Iloilo	35	41	17	34	......	......
La Union	215	230	91	146	......	......
Marinduque	206	194	209	288	......	......
Misamis	58	12	58	22	......	......
Nueva Ecija	192	56	47	34	......	......
Nueva Vizcaya	17	79	17	79	......	......
Pangasinan	630	434	432	363	......	......
Rizal	400	956	316	669	......	......
Sulu	103	8	......	......	......	......
Tarlac	146	132	13	113	......	......
Tayabas	373	161	23	109	......	......
Total	3,057	2,452	2,135	1,969	365	......

Provinces	Number of injections made in						Total No. injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Camarines Sur	9	6	......	......	......	......	32	13	......
Cebu	297	19	122	13	......	......	668	249	......
Ilocos Sur	253	122	486	93	210	......	837	1,476	575
Iloilo	35	34	23	23	......	......	145	97	......
La Union	101	63	43	69	......	......	609	349	......
Marinduque	256	369	137	146	......	......	1,025	780	......
Misamis	50	16	32	30	......	......	136	142	......
Nueva Ecija	73	132	38	124	......	......	453	243	......
Nueva Vizcaya	4	38	4	38	......	......	138	128	......
Pangasinan	455	415	305	305	......	......	1,934	1,405	......
Rizal	213	719	169	458	......	......	2,288	1,612	......
Sulu	26	9	......	......	......	......	146	......	......
Tarlac	87	74	19	65	......	......	439	210	......
Tayabas	244	44	58	14	......	......	822	204	......
Total	2,103	2,060	1,436	1,378	210	......	9,672	6,918	575

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALL-POX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF FEBRUARY, 1924

Provinces and towns	Cases	Deaths
Leyte:		
Carigara	2	....
Occidental Negros:		
La Castellana	1	....
Camarines Sur:		
Libmanan	[a] 4	....
Tayabas:		
Polilio	[a] 8	....
Total	[a] 15	....

[a] Means varioloid.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF FEBRUARY, 1924

NO CASE AND NO DEATH REPORTED DURING THE MONTH

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF FEBRUARY, 1924

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending January, 1924:						
Minor	54	11	12	27	35	139
Sewer	10	55	13	8	4	90
Vacating	....	9	4	2	3	18
Filling	7	1	14	5	3	30
Total	71	76	43	42	45	277
Orders issued during the month:						
Minor	10	5	3	3	1	22
Sewer	2	2	1	....	....	5
Vacating	1	....	1	....	....	2
Filling	....	....	....	....	....	....
Total	13	7	5	3	1	29
Grand total	84	83	48	45	46	306
Orders completed during the month:						
Minor	3	7	....	1	2	13
Sewer	1	1	....	1	....	3
Vacating	1	....	....	....	....	1
Filling	....	....	....	....	....	....
Total	5	8	....	2	2	17
Orders cancelled during the month:						
Minor	4	....	....	....	....	4
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	4	....	....	....	....	4
Orders pending during the month:						
Minor	57	9	15	29	34	144
Sewer	11	56	14	7	4	92
Vacating	....	9	5	2	3	19
Filling	7	1	14	5	3	30
Total	75	75	48	43	44	285
Strong material plans approved:						
New buildings including additions and alterations	21	18	30	32	7	108
Permits for minor building constructions:						
Approved	22	8	23	19	7	79
Disapproved	3	1	2	7	4	17
New buildings completed	9	24	35	22	7	97
Light and mixed material constructions:						
Permits approved	2	....	41	33	19	95
Permits disapproved	1	....	3	7	14	25
Total number of building projects passed upon	58	51	134	120	58	421
Prosecutions:						
Convictions	....	1	....	....	....	1
Dismissals	....	1	....	....	....	1
Amount of fines	....	₱20	....	....	....	₱20
Plumbing permits issued	17	29	10	19	4	79
Plumbing projects completed	19	15	17	17	2	70
Premises connected to the Sanitary Sewer to January, 1924	1,702	2,876	1,089	580	425	6,672
Premises connected during February, 1924	5	4	6	3	2	20
Total	1,707	2,880	1,095	583	427	6,692

Intramuros includes Ermita and Malate.
Meisic includes Sta. Cruz, Binondo and San Nicolas.
Sampaloc includes Quiapo, San Miguel and Sta. Mesa.
Paco includes Pandacan and Sta. Ana.

MAR 4 1925
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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV MARCH, 1924 No. 3

In ourselves, we suffer for the sins we commit; in our communities, we suffer for the sins we permit.—TENNESSEE HEALTH DEPARTMENT.

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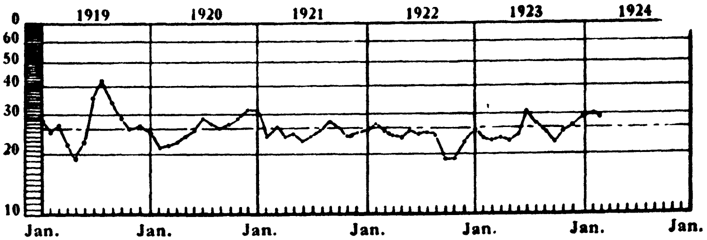
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1924

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COMMITTEE ON THE MONTHLY BULLETIN, P. H. S.

S. V. del Rosario, *Assistant Director of Health, Chairman*
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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV MARCH, 1924 No. 3

REPORT ON THE HOOKWORM CAMPAIGN IN LEYTE PROVINCE

February 27, 1924

The DIRECTOR OF HEALTH
Manila

SIR:

I have the honor to make the following report on the Hookworm Campaign in the Province of Leyte during the period extending from January 9, 1924, to February 17, 1924:

The party arrived in Tacloban, Leyte, on the evening of January 7, 1924. Immediately, arrangements for the installation of our laboratory were made with the president of the first sanitary division together with the acting district health officer, the district health officer being at that time in Ormoc because of the dysentery epidemic in that part of the province. The place selected was the provincial jail, not only because of its ample room but also because of the help which could be obtained from the prisoners. On the morning of the ninth, the microscopical examination of stool specimens began. There being only two of us doing microscopical work and the technician from Cebu not having arrived early enough, only 30 specimens could be examined the first day. Most of these specimens were those of the prisoners of the provincial jail. Later, came those of the students, employees, and others after I had given a lecture on the hookworm disease to the high-school students. In order to convince the people of the significance of such a campaign, they were given a chance to look at whatever eggs of intestinal parasites were seen under the microscope. The survey lasted three days, and on the morning of the twelfth, treatment began.

As is always the case everywhere, during the first day, only a few (39) patients were treated, the people, specially the laity, fearing that the medicine might cause death. During the succeeding days of treatment, however, the clinic was always full; so much so that we had to make use of two separate buildings, the puericulture center for men and the new domestic science building of the high school for women. The first was used thru the kindness of the president of the Tacloban Woman's Club, and the second because so many of the female students of the high school did not have rooms enough for them at the puericulture center. Altogether, there were 1,019 patients treated in the town of Tacloban during five clinic days. The result of the microscopical examination can be seen on the accompanying table.

From Tacloban, the party headed for Burawen, one of the biggest towns of the east coast. Here the survey lasted one day, and on the two days of clinic work 326 patients were treated. The continuation of the work was left to Doctor Enage, the president of that sanitary division.

The next town selected was Dulag. As in the former town, there was one day of microscopic work and two days were given to treatment. There were many more people applying for treatment, but their requests could not be granted because of the fact that not more than 100 c. c. of carbon tetrachloride were left after two days of treatment. However, Doctor Enage promised them that as soon as the medicine arrived, he would proceed to that town to treat those who wanted to be treated.

In Tanawan, only 62 stool specimens could be examined; and out of these, one from a male laborer of 17 years was positive for ova of schistosoma japonicum, besides the ascaris, trichuris, oxyuris, and the hookworm eggs that he had, which all totaled five kinds of intestinal parasites. As this was the first case of schistosoma japonicum found since we had begun the campaign in Leyte, I tried to examine the liver of the patient with schistosomiasis and found that the organ was slightly enlarged and the individual was pale and thin. Unfortunately, the patient could not be treated before departure from the west coast. No treatment was given in Tanawan for lack of medicines, although many people were waiting to be treated.

While waiting for the arrival of carbon tetrachloride from Manila, we went to Carigara and then made the survey of that town. Just as we were finishing the microscopical work, Doctor

Kierulf arrived and we all went to Tacloban to pack up our things for Ormoc.

Arriving in Ormoc on the afternoon of the thirtieth of January, we immediately selected the laboratory site so that on the morning of the thirty-first we began the survey. Here in Ormoc, I stayed for a longer period because of the fact that hookworm infection in this part of the province is heavy. In fact, as will be seen on the accompanying table, Ormoc shows 100 per cent hookworm infection. A careful worm count was made of those individuals suspected to be heavily infected and the hemoglobin index was also taken. The highest hookworm count was 1,613 from one individual whose hemoglobin percentage was only 15, the second highest being 1,404 hookworm and 10 ascaris from one with 30 per cent hemoglobin. Among the 36 case selected for worm count, the highest hemoglobin percentage was 60 and the lowest 18. The lowest hookworm count was 85. During the treatment in Ormoc, the patients who were given carbon tetrachloride were selected, those having had dysentery of any form, one month or less before taking tetrachloride, being rejected. It is interesting to note that in Ormoc both individual and mass infection of hookworm is heavy. The low percentages of hemoglobin of the cases selected were probably not only caused by the presence of hookworm but also by malaria, as some of these patients had palpable spleens.

In connection with the hookworm campaign in Leyte, we also had a campaign for better toilets. In the clinics and during the lectures which I gave in the schoolhouses of every town, I always put much emphasis on the establishments of sanitary toilets in order to minimize, if one cannot eradicate, hookworm infection in those communities. It is interesting to note that in Ormoc, during my stay there, the municipal council approved an ordinance for the establishment of public midden-sheds, a step towards bettering the health of the people. This need came to the minds of the councillors of that town after they had seen the dysentery epidemic which broke out rather heavily and after they had been convinced that one of the causes of the spread of the epidemic of dysentery as well as that of cholera and typhoid fever, not to mention the heavy hookworm infection, is the lack of sanitary toilets.

Tapeworms are not very common among the people of Leyte. In Tacloban, out of more than one thousand persons treated, only three tapeworms were obtained, all of which were of the solium type and the longest measured one meter. In Burawen three tapeworms were also obtained out of 326 persons treated. The longest tapeworm obtained was that in Ormoc and the worm measured 1½ meters. Neither in this town nor in Dulag is the tapeworm of common occurence.

As has been previously stated, Ormoc has 100 per cent hookworm infection, while Tanawan comes second with 95 per cent. Dulag has 92 per cent, Carigara 91 per cent, and Tacloban and Burawen have each 90 per cent hookworm infection.

Hookworm infection in the Province of Leyte

Towns	Per cent of Hookworm	Per cent Ascaris	Per cent Trichuris	Per cent Oxyuris	Per cent Tænia	Per cent Schistosoma	Per cent all parasites	Number of stools examined	Number of persons treated
Tacloban	90	60	80	20	0	0	100	100	1,019
Burawen	90	80	83	13	1	0	100	100	326
Dulag	92	80	77	13	0	0	100	100	207
Tanawan	95	82	100	20	0	2	100	62	....
Carigara	91	67	76	17	0	0	100	100	....
Ormoc	100	80	55	24	0	0	100	105	1,283
Total treated	......	......	......	......	......	......	....	....	2,835

In this connection, I wish to state that in the four provinces so far surveyed, I did not see people who were pale to the extreme as in Ormoc, Leyte. As has been stated above, both individual and mass infection of hookworm is heavy and the cause of this heavy infection is the lack of sanitary toilets and of proper sanitary education of the people. The efforts of the Ormoc municipal council to establish public toilets should be favorably commented upon. The district health officer of Leyte is trying his best to increase the number of sanitary toilets in his province where there occurred a recent epidemic of dysentery and where there is a high percentage of hookworm infection.

Very respectfully yours,

(Sgd.) BIENVENIDO CARO
In Charge of Hookworm Campaign
Province of Leyte

CHAULMOOGRA ETHYL, PROPYL, BUTYL, AND AMYL-ESTERS

By G. A. PERKINS

Chief Chemist, Culion Leper Colony

[To be published in full in the Philippine Journal of Science]

Experiments on the preparation of chaulmoogra ethyl, propyl, butyl, and amyl-esters are described, and the course of the reaction between chaulmoogra oil and the alcohol was followed by means of a refractometer.

The proportion of two mols of the alcohol to one molecular equivalent of chaulmoogra oil was found to be sufficient for a practical conversion of the oil into the desired ester, by using sulphuric (.03 mol) as a catalyst.

Hydrochloric acid (.03 mol) was found less desirable as a catalyst because it caused a different equilibrium value, presumably thru different distribution in the two liquid phases.

Practical equilibrium was found to be obtainable by boiling a few hours and using dehydrated alcohols.

The water in 95 per cent ethyl-alcohol was found to emphasize the separation of the reaction mixture into two layers, a disadvantage which can be overcome by increasing the amounts of alcohol and acid and the time of boiling.

The methods used at present for the preparation of chaulmoogra ethyl, propyl, butyl, and amyl-esters are described and the characteristic of these products are given.

A method is described for combining the ethyl-ester with iodine in such a way as to diminish materially the irritating properties of this drug.

MEMORANDUM REPORT

MANILA, *September 19, 1924*

To: *Director of Health*
From: *Assistant Chief, Division Provincial Sanitation*
Subject: *Survey, Public-Health Administration, Province of Samar*

1. In compliance with paragraph 11, Special Order No. 7, series of 1923, a survey of the public-health administration in the Province of Samar was made during the months of July, August, and September, 1923, on such odd occasions as the requirements of a concomitant detail—Typhoon Relief Work on the East Coast of Samar—permitted.

2. The finding of the survey and pertinent recommendations follow hereunder in detail:

I. STATISTICAL DATA

Area	Sq. miles	5,276
Population (Census 1918)		379,575
Population, estimated, July 1, 1922		383,812
Death rate, 1922		17.32
Death rate, last five years		21.32
Birth rate, 1922		36.68
Birth rate, last five years		33.52
Marriage rate, 1922		12.81
Marriage rate, last five years		16.05
Infant mortality, 1922		121.68
Infant mortality, last five years		144.87

II. PREVAILING DISEASES

(*a*) Of the diseases influencing the general death rate, malaria, dysentery, and tuberculosis head the list. Deaths from malaria constituted 44 per cent of the total deaths; dysentery, 9 per cent; tuberculosis, 7.4 per cent.

(*b*) Of the diseases influencing the infant death rate, infantile convulsions, acute bronchitis, infantile beriberi, and acute enteritis are of frequent occurrence.

III. ORGANIZATION AND PERSONNEL

PROVINCIAL ORGANIZATION

The present organization, created under section 1002 of the Administrative Code, dates back to the year 1919. For purposes of municipal health administration, the province is divided into thirteen sanitary divisions, as follows:

1st—Laoang, Palapag, Pambujan, Catubig.
2nd—Catarman, Bobon, Mondragon.
3rd—Allen, Lavezares, San Antonio, Capul.
4th—Tinambacan, Alimagro, Santo Niño.
5th—Calbayog, Oquento, Santa Margarita.
6th—Gandara, Tarangnan.
7th—Catbalogan, Wright.
8th—Villareal, Calbiga, Zumarraga.
9th—Basay, Santa Rita.
10th—Guiuan, Salcedo, Balangiga.
11th—Llorente, Hernani.
12th—Borongan, San Julian, Sulat.
13th—Dolores, Taft, Oras.

For a good many years to come, the grouping above of municipalities cannot be improved upon. Each division has been formed with towns closely allied to each other. The present grouping is logical from a geographical point of view.

Five divisions, the first, second, fifth, seventh, and twelfth, are supervised by physicians as presidents of sanitary divisions; three, the sixth, tenth, and eleventh, by male graduate nurses; five, the third, fourth, eighth, ninth, and thirteenth, by acting presidents of sanitary divisions, men who have had more or less practical training in health work. Each of the thirty-seven municipalities of the province is provided with one municipal sanitary inspector, with the exception of Catbalogan, the provincial capital, with three, and Calbayog, with two. No female district nurses are employed by the provincial health service:

RECAPITULATION OF PERSONNEL

1	District health officer.
13	Presidents of sanitary divisions.
40	Municipal sanitary inspectors.
2	Clerks, office of district health officer.

Qualifications of the provincial health officers

Name	Position	Executive ability	Initiative	Diligence	Morals
Ramon V. Ferrer, M.D.	D. H. O.	Excellent	Fair	Excellent	Good.
Juan Rivera Capuli, M.D.	P. 1st S.D.	Fair	Fair	Fair	Good.
Maximiliano Hermosilla, M.D.	P. 2nd S.D.	Good	Fair	Fair	Good.
Mateo Vivar	P. 3rd S.D.	Good	Good	Good	Fair.
Gerardo Rosales	P. 4th S.D.	Good	Fair	Good	Good.
Ruperto Ortiz, M.D.	P. 5th S.D.	Good	Fair	Good	Good.
Victor Jimenez, R.N.	P. 6th S.D.	Fair	Fair	Good	Good.
Gilberto C. Rosales, M.D	P. 7th S.D.	Fair	Fair	Fair	Excellent.
Clemente L. Letaba	P. 8th S.D.	Fair	Fair	Good	Good.
Mariano Romero	P. 9th S.D.	Excellent	Good	Excellent	Poor.
Hermogenes Aldana, R.N	P. 10th S.D.	Good	Good	Excellent	Good.
Filemon Gualdrapa, R.N.	P. 11th S.D.	Fair	Fair	Excellent	Excellent.
Carlos Valenzuela, M.D.	P. 12th S.D.	Fair	Poor	Fair	Fair.
Raymundo Ballos	P. 13th S.D.	Good	Fair	Good	Good.

OFFICE ACCOMMODATIONS, EQUIPMENT, AND SUPPLIES

(*a*) *Office accommodations.*—The office of the district health officer is poorly housed in the municipal building of Catbalogan, as it occupies a small room wholly inadequate for the purpose. The same condition is true with the municipal health offices, with the exception of those of Sulat, Borongan, Guiuan, Basey, and Calbayog, where fair accommodations have been secured in point of office space and appointments.

(*b*) *Equipment and supplies.*—The office of the district health officer is fairly supplied with equipment and supplies, but the municipal health offices are poorly equipped in view of the limited funds appropriated for the purpose.

PROVINCIAL LABORATORY

There are no laboratory facilities for the provincial health organization.

DISINFECTING FACILITIES

Each municipality is provided with at least one new disinfecting pump with sufficient stock of disinfectant.

IV. FINANCES

The health budget for the current year called for expenditures totalling ₱35,520, distributing as follows:

(*a*) Salaries and wages	₱28,020.00
(*b*) Travel expenses of personnel	3,400.00
(*c*) Medicines, disinfectants, and equipment	4,000.00
(*d*) Other service	100.00
	35,520.00

The revenues of the health fund accrued from the following sources:

Balance health fund, 1922	₱3,535.06
Municipal contributions	25,000.00
Provincial allowance	7,000.00
	35,535.06

V. MEDICAL RELIEF

(*a*) *Hospitals.*—There is none in operation in the province.

(*b*) *Dispensaries.*—Each town is provided with a public dispensary located in the municipal health office. These dispensaries are all poorly equipped and the stock of medicines on hand is quite limited, evidently because of the meager appropriations set for the purpose. A few of the drugs found in stock were four of five years' duration, and consequently were deteriorated. The quality of work done in these dispensaries, despite the existing handicaps, is very satisfactory and the quantity is rather voluminous, especially in towns where medical relief can only be secured from our health agencies. During the year 1922 the public dispensaries performed 5,210 treatments and 169 operations, and attended 3,676 consultations. The best operated dispensaries are those of Guiuan, Basey, Catbalogan, and Calbayog.

(*c*) *Health work done by other agencies.*—Puericultural centers, under the Office of the Public Welfare Commissioner, are in operation in the municipalities of Catbalogan, Laoang, Calbayog, Guiuan, and Borongan. Red Cross puericultural centers are also operated in Balangiga, Catubig, and Sulat. The Junior Red Cross employs a dentist for the exclusive benefit of school children. Two male nurses are employed by the Bureau of Education, one assigned at the Catarman Agricultural School, the other detailed as school health and sanitation supervisor.

VI. WATER SUPPLIES

(*a*) *Waterworks are operated in Catbalogan and Oras.*—The Catbalogan establishment is modern and fully adequate to present needs. The one at Oras, established by the military authorities about twenty years ago, although still serviceable, is now in sore need of repair.

(*b*) *Artesian wells.*—The drilling of artesian wells in Samar has not been attended with success. Only two are in existence in the province, one at Catbalogan, another at Wright. Laoang is planning to have one drilled in the immediate future.

(*c*) *Superficial wells.*—Most of the municipalities derive their water supply from open superficial wells. Being unprotected, they are of course constantly liable to contamination.

(*d*) *Natural sources.*—Rain water stored in large tanks are used to a great extent in the municipalities of Borongan, Calbayog, Guiuan, and Laoang. Spring water is considerably made use of in the hinterland towns, such as Calbiga, Catubig, Gandara, and Oquendo.

VII. SEWAGE DISPOSAL AND GARBAGE COLLECTION

(*a*) *Sewage disposal.*—The erection of Antipolo closets has been made compulsory by ordinance in the municipalities of Balangiga, Basey, Catubig, Guiuan, Hernani, Llorente, Mondragon, Salcedo, Sulat, Taft, and Villareal. The proposal is pending action in 16 municipalities. The enforcement of the Antipolo closet ordinances has been rather deficient. But 195 private and 297 public closets have been constructed to date.

A few septic-tanks have been built in the municipalities of Calbayog, Guiuan, and Sulat.

Outside of the closets listed above, open-surface latrines are in common use in urban centers as well as in rural districts.

(*b*) *Garbage collection.*—Ordinances regarding garbage collection are in force in the municipalities of Palapag, San Antonio, and Zumarraga. In the rest of the province, garbage collection is left to individual initiative without regulations of any kind.

VIII. MARKETS AND SLAUGHTERHOUSES

Few modern markets are in existence in Samar. Concrete markets have been built in the municipalities of Calbayog and Wright. Another one is in process of construction in Catarman. Markets of mixed materials are to be found in Guiuan and Zumarraga. In the rest of the province, the markets are constructed of flimsy materials, such as nipa and bamboo.

An objectionable feature found in many of the markets of the province consists in allowing the fish, meat, and tuba merchants to erect dwellings or living rooms in the market premises. In the absence of sanitary public closets and provisions for garbage and refuse collection, such places become in time veritable pest-holes.

IX. CEMETERY ADMINISTRATION

In general terms, the cemeteries on the east coast are excellently kept. There are regular religious organizations in that part of the province that are charged with the proper up-keep of their respective burial grounds. Elsewhere in the province, the cemeteries are badly administered, are overgrown with weeds, and are managed in violation of the existing regulations.

On the other hand, there is a large number of rural cemeteries which for years and years have been in use in the distant barrios without the authorization of the Director of Health as required by the existing law. In a country of vast distances and poor transportation facilities, the necessity for establishing as many burial grounds as possible becomes evident.

At the end of the year, a total of 191 cemeteries were in operation in the province.

X. MEDICAL INSPECTION OF SCHOOL CHILDREN

Section 1 of Act 3029 provides that "it shall be the duty of the Director of Health to provide for the medical inspection of the children in all Government elementary schools at least once each year."

Taxed as is the limited provincial health personnel with multitudinous duties, the medical inspection of school children is carried out in an irregular and defective way. The wonder is that, with the handicaps obtaining under the existing conditions, school inspection work is being done at all. In all the municipalities surveyed, school inspection is done in a desultory manner. The time and frequency of inspection being subject to the exigencies of the general service, the results obtained are indeed meager and of little positive or scientific worth.

MEDICAL SURVEY OF PRIMARY SCHOOL CHILDREN

Nurse F. Argota and the undersigned undertook a survey of the primary-school children in Catbalogan and Basey with a two-fold purpose.

First, to find the percentage of the incidence of trachoma, scabies, enlarged tonsils, and dental caries and the percentage of vaccinated school children.

Second, to evolve a method of securing quick but effective examination of school children with the ordinary facilities for doing the work.

The summary of findings follows:

(*a*) *Catbalogan survey:*

Total of pupils examined	435
Trachoma cases found (10 per cent)	47
Scabies cases found (12 per cent)	53
Enlarged tonsils case found (15 per cent)	67
Dental caries cases found (35 per cent)	152
Unvaccinated (29 per cent)	128

(*b*) *Basey survey:*

Total of pupils examined	399
Trachoma cases found (12 per cent)	48
Scabes cases found (9 per cent)	38
Enlarged tonsils cases found (15 per cent)	50
Dental caries cases found (25 per cent)	103
Unvaccinated (16 per cent)	66

(*c*) A nurse can perform 100 examinations easily from 7.30 a. m. to 11.30 a. m. Nurse Argota, the local health officer, and myself performed the Basey survey. We three were able to examine 399 pupils from 8 a. m. to 12 noon on September 5, 1923.

(*d*) Actual examination should be done in the morning. Afternoon school hours are not desirable for the purpose inasmuch as industrial work is done during that time and classes are disturbed thereby. The treatment of sick pupils should be done in the afternoon.

(*e*) The incidence of dental caries is greater among children living in urban than in rural centers. The majority of the school children of Basey come from rural districts.

XI. HEALTH EDUCATION

The prescribed schedule of lectures is being carried out in a fair manner by the presidents of sanitary divisions. During the year 1922, a total of 423 lectures were given in school and before urban and barrio audiences.

The Bureau of Education health supervisor and the Junior Red Cross organization are doing effective work in school circles toward imparting practical instructions on hygiene and sanitation. Puericultural center nurses are also lending a hand in health education.

XII. RECOMMENDATIONS

1. ORGANIZATION AND PERSONNEL

(*a*) *An assistant district health officer should be detailed in eastern Samar.*—The island is to large for one man to handle alone. Its area is sufficiently ample to contain three good-sized provinces. Good roads are few and most of the traveling is done by water-craft and on foot. The transportation facilities are specially poor along the Pacific seaboard from Oras to Hernani around Point Suñgei to Guiuan and Balangiga. With the exception of Borongan and Guiuan, the towns along this coast are practically isolated from the rest of the world during the hardest portion of the northeast or *amihan* monsoon in December, January, February, and March. Communication between these two towns and Manila is maintained throughout the year, but steamer travel during the *amihan* season is too uncomfortable, not to say precarious.

Going from Catbalogan.—The provincial capital, located on an isolated spot on the west coast at the entrance of Maqueda Bay—to any point in eastern Samar, one must first proceed by water—six hours on motor boats—to Tacloban, Leyte, where steamer connection for either Guiuan or Borongan can be had every ten days, steamer travel time from Tacloban to the former being seven hours, to the latter 12 hours. The rest of the towns on the coast can only be reached by way of Guiuan and Borongan, by water or on foot along roads in the poorest imaginable condition, with the exception of the motor transport in operation on the 20-kilometer first-class road between Borongan and Sulat to the north. There is an overland trail between Catbalogan and Taft on the east coast, but it is not a practicable route for regular inspections of the Pacific seaboard.

Under such conditions, efficient supervision from Catbalogan, and regular and frequent inspection of eastern Samar is out of the question, with only one district health officer to look over the health affairs of the whole island.

Northern Samar with the west coast can be easily handled from Catbalogan with every assurance of success. It would, however, leave the east coast unattended.

The best remedy, under the circumstances, would be to detail one newly appointed surgeon of the Philippine Health Service in eastern Samar as assistant district health officer, with headquarters at Borongan for a period of not less than one year's time. The special conditions obtaining on the east coast would serve as an ideal training district for the development of a young officer's initiative, executive ability, endurance, and self-reliance. One year of hiking over rough trails and roads and of sailing in the roughest seas of the Philippines will surely turn out well-seasoned, he-man officers.

(*b*) *Presidents of sanitary divisions.*—Physicians should be appointed as presidents for the sixth, ninth, tenth, and thirteenth sanitary divisions, in view of the relative importance of these districts; and graduate nurses for the third, fourth, eighth, and eleventh divisions. Under this arrangement, nine of the thirteen divisional presidencies would be filled with duly qualified physicians.

(*c*) *District nurses.*—No woman district nurses are now employed in the provincial health organization. At least four positions for district nurses should be created for public-health nursing and school inspection work, one for northern Samar with headquarters at Catarman, two for western Samar with headquarters at Catbalogan, and one for the east coast with headquarters at Borongan.

(*d*) *Additional sanitary inspectors.*—The following municipalities should each be given one additional municipal sanitary inspector in view of their importance and the extent of their territorial jurisdictions: Basey, Borongan, Guiuan.

(*e*) *Office accommodations, equipment, and supplies.*—(1) There being no provincial building at Catbalogan, the office of the district health officer and the local health office should be housed in a rented building with sufficient space for offices, laboratory, dispensary, and storerooms. One such building can easily be secured there at ₱30 or ₱40 monthly.

(2) *Municipal health offices should be provided with standard office furniture.*—desk, chairs, file cabinets, etc.—and standard dispensary equipment—first-aid instruments, medicine-chests,

etc. Larger appropriations should be set aside for their equipment and supplies, including those for public dispensaries.

(*f*) *Provincial laboratory.*—Samar is way behind other provinces in laboratory facilities. A standard laboratory should be established as part of the equipment of the provincial health organization.

(*g*) *Disinfecting facilities.*—There should be at all times a reserve stock of 12 pumps and 24 cans of disinfectant at the provincial capital.

2. FINANCES

The existing deficiencies in the public-health administration in Samar—scarcity of duly qualified physicians, irregularity of inspections, poor dispensary service, deficient medical inspection of schools, etc.—are all due in a great measure to shortage of funds.

The provincial health service should be run on a basis of a health fund amounting to ₱50,000 per annum, one-half thereof contributed by the municipalities, the other half by the province, as required by Act 3115. With such a fund, the following could be secured:

(*a*) Greater number of physicians in the service.

(*b*) Employment of four district nurses.

(*c*) Employment of three additional sanitary inspectors.

(*d*) Purchase of office furniture and standard dispensary equipment.

(*e*) Purchase of larger amount of stock dispensary medicines.

(*f*) Provision of appropriate quarters for District Health Officer's office, Catbalogan local health office, etc.

(*g*) Establishment of a provincial laboratory.

(*h*) Granting of per diem allowances to officers and subordinate personnel.

3. MEDICAL RELIEF

(*a*) Establishment of a provincial hospital at Calbayog.

(*b*) *Public dispensaries* should be provided with standard furniture, equipment, and medical supplies. Prescribed "clinic days" to be carried out.

(*c*) Coöperation and coördination between the provincial health organization and the other agencies concerned in health work.

(*d*) Campaign for malaria and dysentery control and tuberculosis eradication should be instituted under the direct supervision of the Philippine Health Service in places where these diseases prevail.

4. WATER SUPPLIES

More artesian wells should be drilled, the construction of water works encouraged, and protection of surface wells with cement work and provision of pumps, if the first two needs cannot be undertaken.

5. SEWAGE DISPOSAL

(*a*) A drive for a more extensive use of Antipolo closets should be instituted, the simplest type (bamboo) to be allowed in rural districts in preference to the insanitary open latrines. What was done and effected in our Borongan drive during July and August of this year can be duplicated anywhere in the province. The Antipolo closet ordinance should be generally enforced.

(*b*) The number of public closets, especially in urban centers (poblaciones), should be increased.

6. GARBAGE COLLECTION

In towns of fair size, efforts should be made to have municipal councils establish collection services, either by contract or by administration. Two or three bull or carabao carts can do wonders with a relatively small outlay: One hundred eighty pesos initial expense to a cart, including draft animal, and operating expenses, from ₱400 to ₱500 a year including driver and helper. In the long run, however, a crematory similar to the one built at Antipolo would better serve the purpose.

7. MARKETS

(*a*) Prohibit the erection of dwelling or living-rooms in market premises.

(*b*) Construction of cemented slaughterhouses.

(*c*) Provide for the protection of foodstuffs on sale in markets from dust, fly, and handling contamination.

(*d*) Provide for regular cleaning of market premises.

8. CEMETERY ADMINISTRATION

(*a*) Ascertain which rural cemeteries are duly authorized by the Director of Health; select the most likely sites for distant barrios and recommend the closures of those not absolutely needed.

(*b*) Compel the cemetery administrator in Northern Samar and West Coast to comply with the existing regulations.

9. MEDICAL INSPECTION OF SCHOOLS

(*a*) Four positions for district nurses should be created for school inspection work and public-health nursing. In any given working day, the three nurses can each easily examine 100 elementary school children. As already recommended, one should be detailed in northern Samar at Catarman, two at the provincial capital, one of whom should be assigned as chief, and one on the east coast at Borongan. These nurses should be provided with a portable dispensary outfit and should be kept traveling all the time,—proceeding to the next town on the schedule after completion of the work in one.

(*b*) The school work of these nurses should be carried out under the direct supervision of the district health officer in coördination with that of the Bureau of Education nurses and the dentist of the Junior Red Cross as the basis of the following arrangement:

1. The public-health nurses to undertake all medical examinations of school children.
2. The Bureau of Education nurses to attend to the sanitation of schools and their premises and any follow-up work in this regard in the homes of teachers and pupils. Duplicates of all correspondence dealing with school sanitation should be furnished the district health officer and the public-health nurse in charge of the district.
3. The Red Cross dentist to attend, of course, to all dental school service.
4. A definite health-education program for school should be prepared at the beginning of the school year, the three agencies concerned to take part therein.

(*c*) Simple remedy-chests should be provided to every school, at the expense of the Bureau of Education.

(*d*) The coöperation of Public Welfare nurses should be enlisted in school sanitation.

10. HEALTH EDUCATION

Under actual working conditions, general health education is imparted in a fairly satisfactory manner; yet it is doubted whether the instruction so imparted is of lasting results or penetrates the mind process of the common people, especially in rural districts. In urban centers, the sanitary sense or opinion is being gradually formed as evidenced by higher standards of living—better homes, better food, better clothing, desire for better water-supplies and better fecal disposal, etc., but the greater mass of the population in country districts needs awakening. Sanitation among the rural people is still behind the times.

Health education should be conducted so as to reach the common field workers, the lowly folk, among whom it will do most good.

Greater extension of health educational activities can be secured by proper coördination and whole-hearted coöperation between all of the Government and private agencies concerned in health work. Any definite program in the premises should be made on the basis above outlined. The work involved is of vast proportions, and there is room for all willing elements to help.

SUMMARY

(*a*) The deficiencies found in the public-health administration in Samar Province are primarily due to poverty of funds available for health and sanitation work, and secondarily to poor transportation facilities which impede frequent and regular inspections and thorough supervision of municipal health work.

(*b*) Coördination of work between the different agencies in existence in the province, concerned in health, should be productive of lasting and positive results.

(*c*) The campaign against prevailing diseases should be undertaken under the direct supervision of the Philippine Health Service.

Respectfully submitted,

P. LAYGO
Assistant Chief, Division of
Provincial Sanitation

MISCELLANEOUS

NEW ASSIGNMENTS OF THE PHILIPPINE HEALTH SERVICE

Nurse Cayetana Guiab has been relieved as district nurse in Aritao, Nueva Vizcaya, and directed to proceed by first available transportation to Bontoc, Mountain Province, for duty in the Kiangan Hospital.

Dr. Vicente Lontoc has been appointed a temporary assistant surgeon in the Philippine Health Service and detailed as resident physician in the San Lazaro Hospital.

Dr. C. H. Deles has been appointed a temporary assistant surgeon in this Service and has been directed to proceed to the San Ramon Penal Colony as colony physician there.

Surgeon Bienvenido Caro has been temporarily assigned for duty at Health Station No. 1, Intramuros.

TRAINING FOR HEALTH OFFICERS

From January 1st to February 29, 1924 fourteen health officers finished the two weeks' course given at the headquarters of the Philippine Health Service. The course is so arranged that the health officers will get conversant with the work of the different offices and divisions of the Service.

VISITING YALE PROFESSOR GOES TO CULION

Dr. R. A. McDonnell, professor of Dermatology at Yale University, will visit Culion on March 5. He is an expert in skin diseases and is interested in leprosy work. He has been in Europe a year and may be able to give some new ideas to the staff at Culion. Doctor Perkins, who has recently returned from the United States and who is a chimest stationed in the colony, will also go on the same date.

CEBU SANITATION CONTEST EFFECTIVE

The Sanitation Contest was started in the municipality of Dumanjug on October 3, 1922. Since then, it has also been carried out in some other municipalities of Cebu.

The contest is usually held during the *fiesta*. Before the *fiesta* a committee is organized and money is requested from the executive committee for the distribution of prizes.

The municipality is divided into districts, each to be under the charge of the assistant sanitary inspectors. People who desire to enter the contest will make any sanitary improvements such as Antipolo system, home garden, hog fence, sanitary *tienda*, etc. Any contestant who has the best of any of these improvements will receive a prize, which will consist of pails, hoes, water-carrying cans, glasses, and cupboards. A diploma signed by the Director of Health is also given to the winner.

This year the contest will be done thruout the year. The municipality that has the most number of sanitary improvements will get a prize and a diploma. There will also be a prize for the president of the sanitary divisions assistant sanitary inspector, and municipal president.

In judging the winners, a procession is usually done. The people are invited to see the improvements that are implanted. In giving the prizes, the importance of the contest and why the winners deserve the prizes is explained to the public. In this way the sanitation contest is finished.

MEETING OF THE COMMITTEE ON ARTESIAN WELLS

In the meeting of the Committee on Artesian Wells held on February 28, 1924, the re-opening of San Andres Artesian Well as soon as the permanent repairs are completed this week was recommended and was approved by the Director of Health.

The Committee also resolved that the studies of the sub-committee to detect the real cause of contamination of artesian wells be continued which was also approved. The sub-committee is composed of Drs. Otto Schobl and Proceso Gabriel and Mr. T. Dar Juan.

APPOINTMENT IN THE MEDICAL RESERVE CORPS

Dr. Rafael Jesus Perez, of Manila, is the first Filipino physician who has received his appointment in the Medical Reserves Corps of the United States Army. Others will probably have their appointments soon. It is suggested that those having no application blank forms yet will please secure them from the Director of Health.

YAWS CLINIC IN BULACAN

Medical Inspector Juan Fernando, District Health Officer of Bulacan, reports that a total of 58 persons suffering from yaws were treated during the month of January, of which 15 are females and 43 males and 50 adults and 8 children. Forty-two (42) of these persons were cured.

NUMBER OF LEPERS IN CULION

Dr. Avellana Basa, chief of the Culion Leper Colony, reports that up to the end of January, 1924, there are 5,389 lepers in the Colony, of whom 5,351 are Filipinos, 17 Chinese, 14 Chamorros, 4 Americans, 2 Japanese, and 1 European.

There are 2,662 men, 1,417 women, 804 boys, and 506 girls.

DENTAL CLINIC IN BULACAN

Dr. Bartolome Reyes, provincial dentist of the Province of Bulacan, reports that for the month of February, 1924, a total of 198 persons received treatments at the dental clinic of the province. A total of 98 extractions, 171 fillings, and 3 operations were done.

DENTAL CLINIC IN LAGUNA

Doctor Sayo, District Health Officer of Laguna, reports that for the month of February, a total of 118 treatments were done in his district, of which 57 were extraction and 4 fillings.

MALARIA CAMPAIGN IN PAMPANGA

Sanitary Engineer Tiedeman, of the Rockefeller Foundation, in charge of malaria campaign work at Pampanga in coöperation with the Philippine Health Service, reports that for the month of February, the routine observations in connection with the malaria survey have been continued with nothing of unusual interest to report. The experiment at Anoun and Pabanlag have been carried on successfully. A serious drawback in this work, however, is the fact that laborers are continually coming and going at their will. This makes lengthy observations difficult.

Mr. Tiedeman has undertaken a study of forces that might attract anophelene mosquitoes. The preparatory work has been completed and the experiment is now under way. He does not think that many people, in any country, will consistently catch the mosquitoes in their rooms even if a cheap and convenient method is devised. However, he believes that he is in a position to offer a remedy to the few people who take the matter seriously. He also sees a possibility of applying the method in small labor barrios under one management.

DISTRICT INSPECTORS KIERULF AND INTENGAN MAKE INSPECTIONS

Doctor Kierulf, District Inspector of the Philippine Health Service, has been directed to proceed to Surigao to make investigations and inspections of the sanitary conditions in that province.

Doctor Intengan, District Inspector of the Philippine Health Service, has been directed to proceed to Tayabas to make investigations and sanitary inspections in the Province of Tayabas.

ASSIGNMENT OF PUBLIC-HEALTH NURSE

Public-health Nurse Patrocinio del Rosario has been directed to proceed to Camp Stotsenberg, Pampanga, and report to the commanding officer thereof for duty in the civilian community. She shall return to her station after two weeks.

CEBU HEALTH BULLETIN

The Cebu Health Bulletin for March has recently been issued. It deals with a "Brief Résumé of Modern Public-Health Administration."

OTHER RESERVE CORPS APPOINTEES

Senior Medical Inspector Felino Simpao and Surgeon Bienvenido Caro, both of the Philippine Health Service, have received their appointments as "first lieutenants" of Filipino contingent of the Medical Reserve Corps of the United States Army.

DISTRIBUTION OF HEALTH CENTERS IN THE CITY OF MANILA

In view of the arrangement made between the Office of the Public Welfare Commissioner and the Philippine Health Service whereby health centers are established in the City of Manila, Dr. Rosario Pastor, physician in charge of health centers and school, has been directed by the Director of Health to observe the following hours of consultation in each health center:

Intramuros (includes Malate and Ermita)	Monday Wednesday Saturday	7.30 a. m. to 12.00 noon.
Paco	Monday and Thursday	1.30 p. m.–4.00 p. m.
Meisic	Wednesday	1.30 p. m.–4.00 p. m.
Sampaloc	Tuesday	1.30 p. m.–4.00 p. m.

NEW ASSIGNMENTS IN THE PHILIPPINE HEALTH SERVICE

Dr. Nicanor Victoriano, District Health Officer of La Union, has been directed to proceed to Surigao as his station, relieving Dr. Marcos Corpus who has been instructed to take his place in La Union.

Dr. Antonio Fernandez, Assistant District Health Officer of Cebu, has been directed to proceed to Samar to assume the duty as District Health Officer vice Dr. Ramon V. Ferrer, who has been directed to proceed to Oriental Negros to assume the duty of District Health Officer there.

Acting Chief of the Division of Communicable Diseases of the Philippine Health Service Leoncio Lopez-Rizal has been directed to represent the Director of Health in the first meeting about the organization of the executive committee of the National Congress of Tuberculosis which took place yesterday in the central office of the Philippine Islands Antituberculosis Society.

P. B. ARTESIAN WELL OPENED

In the letter of the Director of Health on March 12, 1924, the P. B. Artesian Well located at San Juan del Monte, Rizal, has been opened, following the bacteriological examination made by the Bureau of Science after the repair of said well on March 5, 1924, which shows that the water is safe and fit for drinking purposes.

The sale and distribution of the water of the P. B. artesian water has been authorized provided that the rules and regulations promulgated by the Philippine Health Service shall be strictly complied with all the time.

CO-ORDINATION OF WORK BETWEEN THE PUBLIC WELFARE COMMISSION AND THE PHILIPPINE HEALTH SERVICE IN THE CITY OF MANILA

In order that the activities of the puericulture centers of the Office of the Public Welfare Commissioner and those of the health centers of the Philippine Health Service in the City of Manila may be coördinated in such a way as to avoid duplication of work and at the same time to secure the greatest degree of efficiency in the service, an arrangement has been made between the two offices whereby work on maternity and child hygiene, birth registration, and vaccination against smallpox will be performed by puericulture centers in certain district and by health centers in certain district health stations. The division of the city according to the Director of Health is as follows:

1. The health centers of the Philippine Health Service cover the following districts:

(*a*) Intramuros to comprise Intramuros, Ermita, and Malate.

(*b*) Meisic to comprise Binondo.

(*c*) Sampaloc to comprise Sampaloc, Santa Mesa, and San Miguel.

(*d*) Paco to comprise Paco.

The bounderies of the districts wherein health centers have been established are hereby fixed as follows:

INTRAMUROS

To include the entire districts of Intramuros, Ermita, and Malate.

PACO

N. Pasig River.
S. Estero Tripa de Gallina.
W. Marquez de Comillas, Gral. Luna, Estero de Paco.
E. Estero de Pandacan.

MEISIC

N. Level of the Estero de Tutuban—Calle Perla (extension).
S. Pasig River.
W. Estero de Binondo and Estero de la Reina until Calle Perla.
E. Estero de la Reina and Estero de San Lazaro.

SAMPALOC

N. Estero de San Miguel—Calle G. Tuazon.
S. Pasig River.
W. Calle Duque de Alba—Estero de San Sebastian and Calle R. Hidalgo.
E. San Juan River.

2. The health centers in the foregoing districts shall carry on as part of their work puericulture activities which include clinic for mothers and children, house visits by nurses, and lectures and demonstrations on maternity and child hygiene.

3. Nurses in the preceding centers shall accomplish and render the forms of reports prescribed by the Office of the Public Welfare Commissioner.

4. Health centers in districts not mentioned above may for the first time attend to cases of maternity or children of pre-school age that may come to them except those suffering from dangerous communicable diseases, but shall, after the first treatment, refer all such cases to the pueriGculture centers established in said districts.

5. Representatives of the Office of the Public Welfare Commissioner will be allowed at any time during office hours to visit the health centers doing maternity and child hygiene work to see how the work is being carried on and also the records pertaining thereto.

6. Under no circumstances will an alteration be made in the procedure herein adopted without having first been sanctioned by the Public Welfare Commissioner and the Director of Health or their duly authorized representatives.

ASSIGNMENTS IN THE PUBLIC-HEALTH NURSING SERVICE

In view of the carrying out more effectively the functions and activities of the health centers in the City of Manila, the districts wherein said health centers have been established are divided into North Division which comprises the districts of Meisic and Sampaloc to be under the charge of Supervising Nurse Victoria T. Nicolas, and South Divison to comprise Intramuros and Paco to be under the Supervising Nurse Eduvigis Beltran.

NEGATIVE LEPERS FROM CULION

Seven negative lepers who arrived at Manila on the s. s. *Polillo* were sent to San Lazaro Hospital from Culion Leper Colony. These will be under parole. They are Marciano Iturralde, Catalino Lorenzano, Maria Gachalian, Romana Acresto, Barbara Quimin, Maria Sevillana, and Eulogia G. Santos. They are from 31 to 57 years old.

DISTRIBUTION OF ASSORTED VACCINE

Doctor Mencias, Acting chief of the office of property of the Philippine Health Service, Manila, reports that the following vaccine and sera have been distributed in Manila and the provinces for the month of February, 1924: Antidiptheritic serum, 400,000 units; antitetanic serum, 344,000 units; antidysenteric serum, 9,1 ampoules; normal horse serum, 62 ampoules; gonococcus vaccine, 74 ampoules; cholera, 11,900 c. c.; mixed cholera-typhoid vaccine, 60,310 c. c.; typhoid vaccine, 16,710 c. c.; fresh vaccine virus, 262,700 units; and dried vaccine virus, 45,200 units. These cost ₱20,064.

DOCTOR SIMPAO GOES TO GUAGUA

Senior Medical Inspector Felino Simpao, of the Philippine Health Service, has been directed to proceed to Guagua, Pampanga, at the first available transportation to confer with the municipal council of that municipality with regard to the sanitary ordinances there.

REPORT OF COMMITTEE ON ARTESIAN WELLS

The Committee on Artesian Wells has recently submitted its report and recommendations to the Director of Health.

The committee found that contamination of city artesian wells was caused by surface water entering the old wooden plug, or by water used for priming to work the pump. *B. acidi lactici* are responsible for the gas observed in the presumptive test. These organisms were also found to be present in the parts of the pumps that were of organic material and never have been used; also in the dust collected from the streets and plants.

The committee, strictly speaking, has not expected that a pump well will give sterile water due to the fact that parts of the pump can never be made impermeable to bacteria.

After a temporary repair and certain adjustment, the number of colonies of the majority of the wells were reduced. Less than 500 colonies per c. c. and absence of *B. coli* has been recommended as standard to be adopted for artesian well water provided that samples are examined within four hours after collection.

The committee also has recommended that the artesian wells be improved according to the plan submitted by Mr. Corpus of the Bureau of Public Works.

1922 HEALTH REPORT OUT

The "Annual Report of the Philippine Helath Service for 1922" has just been out from the Bureau of Printing.

DOCTOR FAJARDO GOES TO SOUTH

Doctor Fajardo, Chief of the Division of Provincial Sanitation of the Philippine Health Service, in company with His Excellency, the Govenor-General, has left for the south to inspect the sanitation in provinces.

COMMITTEE OF TYPHOID INVESTIGATION

Drs. Leoncio Lopez-Rizal, as chairman, Regino Padua, Manuel V. Arguelles, and Bienvenido Caro as members, have been appointed by the Director of Health to make a typhoid investigation in the City of Manila.

DOCTOR AVELLANA IN MANILA

Dr. Jose Avellana Basa, Chief of the Culion Leper Colony, arrived at Manila on the s. s. *Polillo*. He is arranging matters of the Colony at the central office. He will soon return to Culion.

1924 GRADUATING CLASS OF COURSE FOR SANITARY INSPECTORS, PHILIPPINE HEALTH SERVICE

The second commencement exercises of the Course for Sanitary Inspectors under the auspices of the Philippine Health Service will be held at the building of the "Colegio Medico-Farmacéutico," Lepanto, Sampaloc, on March 23, 1923, at 9 o'clock a. m. The guest of honor are the Hon. Alejandro Albert, Acting Secretary of Public Instruction, Col. Edward L. Munson, Health Adviser to His Excellency, the Governor-General of the Philippine Islands, and Dr. Vicente de Jesus, Director of Health, who will take charge of the distribution of diplomas. A program will aso be fitly performed for the occasion.

The graduates, twenty-six in number, are as follows:

CLASS OFFICERS

Messrs.	Ricardo Ynton, Samal, Bataan	President.
	Ceferino Palor, Rizal, Nueva Ecija	Vice President.
	Valentin R. Punzal, Bay, Laguna	Treasurer.
	Quirico Horca, Jaro, Leyte	Secretary.

MEMBERS

Messrs.	Alfredo Alejandrino	Arayat, Pampanga.
	Ciriaco Balancio	San Fernando, La Union.
	Anselmo Bugarin	S. Clemente, Tarlac.
	Carlos M. Catalan	Taisan, Batangas.
	Nicanor Carasig	Malolos, Bulacan.
	Francisco Cavestani	Angat, Bulacan.
	Emiliano Corpus	Aliaga, Nueva Ecija.
	Gregorio Delatado	Ivana, Batangas.
	Silverio Dignum	San Roque, Cavite.
	Juan Dimaculangan	San Jose, Batangas.
	Salustiano Dolar	Jolo, Sulu.
	Gregorio Fernandez	Mangatarem, Pangasinan.
	Simplicio Garcia	Jolo, Sulu.
	Epitacio Geronimo	San Vicente, Ilocos Sur.

MEMBERS—continued

Messrs. Carlos de Lara	Ilagan, Isabela.
Ricardo Perez	Tarlac, Tarlac.
Fermin Quitalig	Catbalogan, Samar.
Ruperto Reas	Tacloban, Leyte.
Doroteo Umaguing	Bayongbong, Nueva Vizcaya.
Clemente Valderrama	Bani, Pangasinan.
Jose Villareal	Lipa, Batangas.
Floro S. Vizconde	Macati, Rizal.

NEW ASSIGNMENTS IN THE PHILIPPINE HEALTH SERVICE

Dr. Ubaldo Potenciano, President of the second Sanitary Division of Bataan and has directed to Mindoro to relieve Dr. Irineo Encarnacion and to assume the duties of District Health Officer there.

Dr. Jose Arevalo, District Health Officer of Camarines Sur, has been assigned as District Health Officer of Bataan.

Dr. Ubaldo Potenciano, President of the second Sanitary Division of Tayabas, having finished his training at the central office, has been directed to return to his former station.

Nurse Mrs. Fortunata J. Montes, of the Office of Public Health Nursing, has been directed to proceed to Camp Stotsenburg, Pampanga, to report to the Camp Surgeon for duty with the civilian community there.

TRIP TO HEALTH SERVICE OFFICIALS TO BATANGAS

Dr. Jose P. Bantug, Acting Executive Officer, Dr. Sixto Y. Orosa, Acting Chief of the Division of Hospitals, Dispensaries, and Laboratories, and Mr. Manuel Mañosa, Sanitary Engineer, went for inspection of the hospital site at Lipa, Batangas, on March 22, 1924, and returned to the city on the same date.

SPECIAL ORDERS FOR ASSISTANT SANITARY INSPECTORS

The following assistant sanitary inspectors, who have completed the six months' course for sanitary inspectors on March 23, 1924, at Manila under the auspices of the Philippine Health Service, have been divided to their former stations in the provinces: Carlos M. Catalan, Silverio Dignum, Ruperto Reas, Quirico Morca, Simplicio Godoy, Clemente Valderrama, Valentin Punzal, Ciriaco Balancio, Fermin Quitalig, Salustiano Dolar, and Simplicio Garcia. The rest, 14 in number, will receive their assignment later.

DOCTOR JOVEN LEAVES FOR INSPECTION

Senior Surgeon Pedro Joven has been directed to inspect the vaccination work in the provinces of Ilocos Sur, La Union and adjacent provinces effective March 25, 1924.

DOCTOR ABERIN RETURNS TO IWAHIG PENAL COLONY

Doctor Aberin, resident physician of the Iwahig Penal Colony, who has been on vacation leave for several days, is now returning to the Colony on the *Gravina* today.

THE CITY WATER SUPPLY

One more proof why the water from the main City Water Supply may be used for drinking purposes safely is the result of the study of Mr. E. Taylor, chemist of the Metropolitan Water District, which has been verified by the Bureau of Science.

The new standard adopted in the United States to determine if a certain water supply may be considered safe for public use is that the presumptive test should not be positive in more than ten per cent of all the water samples examined.

This new standard is considered difficult to attain by experts on the subject. However, comparing the result obtained from the studies of water in the City of Manila with those of several cities of the United States, our water supply is good enough as follows:

	Per cent
Washington, D. C.	4.1
Torre Haute, Ind.	3.3
Seattle, Wash.	7.4
San Francisco, Cal.	15.8
New York, N. Y.	10.9
Manila, P. I.	5.6

This is an evidence that the main City Water Supply may be safely used for drinking purposes altho we still hold the opinion that in order that the water may be better improved the project of Angat Water Supply with its coagulation, filtration, and chlorination plants be carried out as soon as possible.

NEW ASSIGNMENT

Surgeon Pablo Hamoy, of Dapitan, Zamboanga, has been directed to proceed to Lanao to relieve Dr. Mariano C. Icasiano as resident physician of Lanao effective March 31, 1924. The latter will take his three months' leave of absence.

MISS GODUCO LEAVES FOR ZAMBOANGA

Miss Tomasa Goduco, assistant chief nurse of the San Lazaro Hospital, has been directed to proceed to Zamboanga to assist in the preparation of the graduation exercises of the Zamboanga General Hospital Training School for Nurses. She will return to Manila on April 6.

SANITARY INSPECTOR BRANTIGAN GOES TO PAMPANGA

Sanitary Inspector Brantigan and Assistant Sanitary Inspectors Maximo del Rosario and Domingo Zamora have been directed to report to the District Health Officer of Pampanga for duty in connection with the sanitation of the municipality of Guagua.

DOCTOR QUEROL ASSIGNED AS ACTING DISTRICT HEALTH OFFICER

Dr. Antonio Querol, President of second Sanitary Division of La Union, has been assigned as Acting District Health Officer of the province besides his other duties until the regular incumbent assumes his duty as such.

AMBULANCE HAS BEEN SENT TO THE NORTH TO COLLECT LEPERS

The Philippine Health Service ambulance has been sent to the Provinces of Pangasinan, Tarlac, and Nueva Ecija to collect lepers now detained there.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of March, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figure published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, MARCH, 1924

Date	Pressure[1] mean	Temperature						
		In shade[2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1–10	761.03	25.8	34.3	10	18.2	6	27.6	28.1
11–20	61.29	26.6	34.2	17	20.7	20	28.2	28.6
21–31	59.35	27.0	34.6	30.31	20.4	23	28.6	29.1

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1–10	69.4	78.7	9	64.4	2
11–20	69.5	76.0	15	62.9	17
21–31	70.5	76.8	27	64.8	23

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, MARCH, 1924—Continued.

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	E	1,883.0	230.5	2	63.7	8.2	2
11-20	E	1,997.5	257.0	16	55.8	7.2	17
21-31	SE	2,114.0	223.0	24	62.6	7.3	24

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	H. m.	*H. m.*		*mm.*	
1-10	64-35	9-05	3	7.9	1
11-20	52-50	9-35	20	6.6	2
21-31	58-15	9-00	23	0.6	2

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	8	1	9	33.83
Filipinos	564	512	1,076	44.99
Spaniards	4	1	5	30.13
Other Europeans	4	1	5	52.32
Chinese	26	21	47	31.01
All others	4	5	9	48.51
Total and average	610	541	1,151	44.03

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	114	91	205	8	18	26	231	71.86
No. 2, Meisic	82	70	152	4	2	6	158	17.64
No. 4, Sampaloc	133	119	252	8	10	18	270	63.63
No. 5, Tondo	160	151	311	14	14	28	339	48.91
No. 6, Paco	78	62	140	9	4	13	153	54.66
Total	567	493	1,060	43	48	91	1,151	44.03

Number of births attended by physicians living, 267; stillbirths, 19.
Number of births attended by midwife, living, 132; stillbirths, 2.
Number of births attended by family, living, 752; stillbirths, 17.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	....	2	7.52
Filipinos	405	343	748	31.28
Spaniards	2	....	2	12.05
Other Europeans	....	....	....	....
Chinese	18	3	21	13.86
All others	3	2	5	26.95
Total and average	430	348	778	29.76

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	137	85
Divorced	....	....
Widowed	40	55
Single	339	254
Condition not stated	10	1
Total	526	395
Grand total	921	

Stillbirth	38
Number of death with medical attendance	469
Number of death without medical attendance	452

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	32	22	1	....	55
30 days to under 1 year	91	84	16	9	200
1 year to under 2 years	56	52	6	6	120
2 years to 4 years	34	39	4	5	82
5 years to 9 years	5	5	1	2	13
10 years to 14 years	4	7	1	1	13
15 years to 19 years	20	9	7	1	37
20 years to 29 years	46	30	15	6	98
30 years to 39 years	29	21	14	8	72
40 years to 49 years	32	19	6	5	62
50 years to 59 years	27	17	8	2	53
60 years to 69 years	31	16	8	1	56
70 years to 79 years	14	10	1	1	26
80 years to 89 years	5	10	1	....	16
90 years to 99 years	3	5	....	....	8
100 years and over	....	2	....	....	2
Age not stated	1	....	....	....	1
Total	430	348	89	47	914

Six (6) male Filipinos, 43, 25, and 17 years and 5 months and 2 unknown age; and one (1) male American, 34 years. Permanent residences unknown not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	180	56.00
No. 2, Meisic	142	15.86
No. 4, Sampaloc	131	30.87
No. 5, Tondo	373	53.81
No. 6, Paco	95	33.94
Total	921	35.23

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			17	3									20
4. Malaria				1					1				2
4a. Malarial cachexia				2									2
6. Measles			2	2									4
8. Whooping cough			3										3
9. Diphtheria and croup			3	3									6
10. Influenza			5	5									10
14. Dysentery			5	3									8
17. Leprosy				2									2
18. Erysipelas			1	1									2
20. Purulent infection and septicæmia				3						1			4
24. Tetanus				1									1
27. Beriberi			1	4									5
27a. Beriberi, infantile			31	28								1	60
28. Tuberculosis of the lungs	1		75	53	1				4				134
30. Tuberculous meningitis			7	5					1				13
31. Abdominal tuberculosis			4	3									7
32. Pott's disease				1									1
35. Disseminated tuberculosis			1	3									4
37. Syphilis			2	1									3
39. Cancer and other malignant tumors of the buccal cavity			2	1									3
40. Cancer and other malignant tumors of the stomach, liver			2	2									4
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			2										2
42. Cancer and other malignant tumors of the female genital organs				1									1
44. Cancer and other malignant tumors of the skin				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			2	1					1				4
49. Scurvy			1										1
50. Diabetes			1	3									4
51. Exophthalmic goitre				1									1
53. Leucæmia				1									1
54. Anæmia, chlorosis					1								1
55. Other general diseases				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued.

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			15	10					1				26
(2) Cerebro-spinal meningitis (undefined)			2	1									3
63. Other diseases of the spinal cord			2										2
64. Cerebral hæmorrhage, apoplexy			7	5									12
66. Paralysis without specified cause			3	4									7
68. Other forms of mental alienation			4										4
69. Epilepsy			1	1									2
71. Convulsions of infants (under 5 years of age)				1									1
III. Diseases of the circulatory system													
77. Pericarditis			1										1
78. Acute endocarditis			2	5									7
79. Organic diseases of the heart			8	6					1				15
80. Angina pectoris	1												1
81. Diseases of the arteries, atheroma, aneurysm, etc			1										1
84. Diseases of the lymphatic system (lymphangitis, etc.)			2										2
IV. Diseases of the respiratory system													
89. Acute bronchitis			36	35					1				72
90. Chronic bronchitis			6	11									17
91. Broncho-pneumonia			45	42									87
92. Pneumonia			14	7							1		22
93. Pleurisy			1	2									3
94. Pulmonary congestion, pulmonary apoplexy				1									1
96. Asthma				1									1
V. Diseases of the digestive system													
102. Ulcer of the stomach			1								1		2
104. Diarrhœa and enteritis (under 2 years)			13	11					1				25
105. Diarrhœa and enteritis (2 years and over)			3	5									8
108. Appendicitis and typhlitis			1	1									2
113. Cirrhosis of the liver			2										2
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			2										2

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			5	1									
120. Bright's disease			8	11					2				21
126. Diseases of the prostate			1										1
182. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				4									4
137. Puerperal septicæmia				1									1
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene				2									2
143. Furuncle									1				1
X. Malformations													
150. Congenital malformations (stillbirth not included):													
(2) Congenital malformations of the heart			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1) Premature birth (not stillborn)			5	2					1			1	9
(2) Congenital debility			24	15									39
152. Other diseases peculiar to early infancy:													
(1) Injuries at birth (not stillborn)				1									1
(2) Other causes peculiar to early infancy			1	1						1			3
XII. Old age													
154. Senility			11	15									26
XIII. Affections caused by external causes													
155. Suicide by poison										1			1
160. Suicide by cutting or piercing instruments			1										1
169. Accidental drowning			4						1		1		6
172. Traumatism by fall									1				1
183. Homicide by cutting or piercing instruments				1					1				2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			3	2									5
Total	2		405	343	2				18	3	3	2	778
Grand total	2		748		2				21		5		778

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2	2					1				5
4. Malaria				1									1
5. Smallpox									1				1
6. Measles				1									1
9. Diphtheria and croup			1	1									2
10. Influenza			1										1
17. Leprosy			1										1
20. Purulent infection and septicæmia			3	1									4
24. Tetanus				1									1
27a. Beriberi, infantile			2	1									3
28. Tuberculosis of the lungs			12	6									18
30. Tuberculous meningitis			3	1									4
40. Cancer and other malignant tumors of the stomach, liver			3										3
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum				1									1
42. Cancer and other malignant tumors of the female genital organs				1									1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			5	3									8
(3) Cerebro-spinal fever			1										1
64. Cerebral hæmorrhage, apoplexy			2	1									3
68. Other forms of mental alienation			2										2
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart			2	1					1				4
IV. Diseases of the respiratory system													
89. Acute bronchitis			4	5									9
90. Chronic bronchitis			1										1
91. Broncho-pneumonia	1		5	9									15
92. Pneumonia			4										4
96. Asthma					1								1

V. Diseases of the digestive system													
99. Diseases of the mouth and annexa	1	......	......	......	......	......	......	......	......	......	......	......	1
102. Ulcer of the stomach	......	......	2	1	......	......	......	......	......	......	......	......	3
104. Diarrhœa and enteritis (under 2 years)	......	......	1	......	......	......	......	......	......	......	......	......	1
108. Appendicitis and typhlitis	......	......	3	......	......	......	......	......	......	......	......	......	3
109. Hernias, intestinal obstructions	......	......	......	1	......	......	......	......	......	......	......	......	1
110. Other diseases of the intestines	......	......	1	......	......	......	......	......	......	......	......	......	1
113. Cirrhosis of the liver	......	......	1	......	......	......	......	......	......	......	......	......	1
115. Other diseases of the liver	......	......	1	......	......	......	......	......	......	......	......	......	1
116. Diseases of the spleen	......	......	1	......	......	......	......	......	......	......	......	......	1
117. Simple peritonitis (nonpuerperal	......	......	2	1	......	......	......	......	......	......	......	......	3
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis	......	......	4	1	......	......	......	......	......	......	......	......	5
120. Bright's disease	......	......	3	2	......	......	......	......	......	......	......	......	5
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene	......	......	1	......	......	......	......	......	......	......	......	......	1
143. Furuncle	......	......	1	......	......	......	......	......	......	......	......	......	1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(1). Hydrocephalus	......	......	1	......	......	......	......	......	......	......	......	......	1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility	......	......	......	1	......	......	......	......	......	......	......	......	1
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)	......	......	1	1	......	......	......	......	......	......	......	......	2
172. Traumatism by fall	......	......	1	......	......	......	......	......	......	......	......	......	1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	......	......	1	......	......	......	......	......	......	......	......	......	1
183. Homicide by cutting or piercing instruments	......	......	2	......	......	......	......	......	......	......	......	......	2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill-defined	......	......	1	2	......	......	......	......	......	......	......	......	3
Total	2	......	83	47	1	......			3	......	......	......	136
Grand total	2		130		1		....		3		....		136

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
8. Whooping cough					2	2
9. Diphtheria and croup					1	1
10. Influenza					2	2
14. Dysentery					1	1
18. Erysipelas				1	1	2
20. Purulent infection and septicæmia				1	1	2
24. Tetanus				1		1
27a. Beriberi, infantile				2	61	63
30. Tuberculous meningitis					4	4
37. Syphilis	1				1	2
61. Simple meningitis:						
(1) Simple meningitis					9	9
71. Convulsions of infants					1	1
77. Pericarditis					1	1
84. Diseases of the lymphatic system (lymphangitis, etc.)					1	1
89. Acute bronchitis					51	51
90. Chronic bronchitis					9	9
91. Broncho-pneumonia					28	28
92. Pneumonia					3	3
104. Diarrhœa and enteritis					12	12
117. Simple peritonitis (nonpuerperal)				1		1
119. Acute nephritis					2	2
120. Bright's disease					1	1
150. Congenital malformations (stillbirths not included):						
(1) Hydrocephalus					1	1
(2) Congenital malformations of the heart	1					1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	6	1	1	1		9
(2) Congenital debility	9			15	16	40
152. Other causes peculiar to early infancy:						
(1) Injuries at birth (not stillborn)	1					1
(2) Other causes peculiar to early infancy	2			1		3
Total	20	1	1	23	210	255

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,468
Number of rats caught by spring traps	2,922
Number of cage wire traps set	651
Number of rats caught by cage wire traps	9
Number and kind of baits (coconuts)	22,119
Number of poison portions placed	16,598
Number of rats found poisoned	411
Number of rats killed by clubs, and other weapons	1,176
Number of rats found dead from other causes	838
Total number of rats otherwise caught, found dead or killed	5,356
Total number of rats sent to the Laboratory for examination	5,356
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MARCH, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	5	2	11	4	8	6	9	4	3	1	12	3	48	20
Female	1	0	7	0	4	1	9	0	2	2	8	2	31	5
Home:														
Male	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Female	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Total:														
Male	5	2	11	4	8	6	10	4	3	1	12	3	49	20
Female	2	0	7	0	4	1	9	0	2	2	8	2	32	5
Grand total	7	2	18	4	12	7	19	4	5	3	20	5	81	25

REMARKS:

Total cases reported within the month in the City of Manila		96
Resident cases	72	
None-resident cases	24	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		25
Deaths among resident cases	20	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		81
By autopsy	1	
By blood culture	1	
By widal reaction	7	
By urine examination	0	
By feces examination	3	
By clinical symptoms	68	
Cases confirmed as paratyphoid fever		1
Cases not confirmed		15

Carriers, 1.

DYSENTERIES REPORTED DURING THE MONTH OF MARCH, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	2	2	1	0	1	1	0	0	1	0	0	0	5	3
Female	0	0	0	0	0	0	3	0	0	0	0	0	3	0
Home:														
Male	0	0	0	0	2	1	0	0	1	1	0	0	3	2
Female	0	0	0	0	2	2	0	0	1	1	0	0	3	3
Total:														
Male	2	2	1	0	3	2	0	0	2	1	0	0	8	5
Female	0	0	0	0	2	2	3	0	1	1	0	0	6	3
Grand total	2	2	1	0	5	4	3	0	3	2	0	0	14	8

REMARKS:

Total cases reported within the month in the City of Manila		18
Resident cases	16	
Non-resident cases	2	
Total deaths reported within the month in the City of Manila		8
Deaths among resident cases	8	
Deaths among non-resident cases	0	
Cases not confirmed as dysentery		4

CHOLERA REPORTED DURING THE MONTH OF MARCH, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases and suspected cases reported within the month in the City of Manila	2	2
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases confirmed as cholera	0	
Non-resident cases confirmed		0
Total deaths reported within the month in the City of Manila	0	
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed	0	
Deaths among non-resident cases		

Cholera carrier—1.

DIPHTHERIA REPORTED DURING THE MONTH OF MARCH, 1924, CITY OF MANILA.

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	1	1	1	1	1	1	0	0	1	1	4	4
Female	1	0	2	2	1	0	2	1	0	0	1	1	7	4
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	1	1	1	1	1	1	0	0	1	1	4	4
Female	1	0	2	2	1	0	2	1	0	0	1	1	7	4
Grand total	1	0	3	3	2	1	3	2	0	0	2	2	11	8

REMARKS:

Total cases reported within the month in the City of Manila		21
Resident cases	17	
Non-resident cases	4	
Resident cases not confirmed as diphtheria	8	
Non-resident cases not confirmed as diphtheria	2	
Total deaths reported within the month in the City of Manila		8
Deaths among resident cases	6	
Deaths among non-resident cases	2	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3	6	1	3
Varioloid	0	0	0	0
Varicella	24	17	0	0
Smallpox	0	0	0	0
Measles	34	26	2	2
Whooping cough	3	0	3	0
Influenza	20	11	5	5
Bubonic plague	0	0	0	0
Beriberi	3	4	1	4
Beriberi, infantile	31	29	31	29
Pulmonary tuberculosis	140	95	81	53
Tuberculosis of all forms	13	11	13	12
Encephalitis lethargica	0	0	0	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3	1	0	1
Varioloid	0	0	0	0
Varicella	10	0	0	0
Smallpox	1	1	1	0
Measles	5	6	0	1
Whooping cough	0	0	0	0
Influenza	1	0	1	0
Bubonic plague	0	0	0	0
Beriberi	0	0	0	0
Beriberi, infantile	2	1	2	1
Pulmonary tuberculosis	28	14	12	6
Tuberculosis of all forms	3	1	3	1
Encephalitis lethargica	0	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF MARCH, 1924

Sera and vaccines	On hand March 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diptheric serum (units)	50,000	550,000	600,000	110,000	490,000
Anti-dysenteric serum (ampoules)	131	....	131	70	61
Anti-tetanic serum (units)	....	100,000	100,000	100,000	....
Cholera vaccine (c.c.)	13,000	9,000	22,000	14,500	7,500
Dried vaccine virus (units)	5,500	40,000	45,500	43,400	2,100
Fresh vaccine virus (units)	102,100	320,000	422,100	311,500	110,600
Gonococcus vaccine (ampoules)	....	50	50	50	....
Mixed cholera-typhoid vaccine (c.c.)	2,330	58,220	60,550	60,120	430
Normal horse serum (ampoules)	....	....	....	....	....
Typhoid vaccine (c.c.)	7,730	18,000	25,730	21,000	4,730

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	525	156	331	38
Meisic	7,085	239	6,746	100
Sampaloc	1,567	169	1,363	35
Tondo	1,236	366	817	53
Paco	1,533	148	1,369	16
Total	11,946	1,078	10,626	242

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1924—Continued

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	187	17	57	15	328	274	572	306
Meisic	206	5	132	74	1,407	1,024	1,745	1,103
Sampaloc	175	27	150	158			325	185
Tondo	379	48	339	214			718	262
Paco	144	7	25	68			169	75
Total	1,091	104	703	529	1,735	1,298	3,529	1,931

Vaccine virus:

Received	18,450
Used	17,250
Remained	1,200

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros					595	153
No. 2, Meisic					716	133
No. 4, Sampaloc					260	184
No. 5, Tondo					288	201
No. 6, Paco					495	521
Total					2,354	1,192

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros					338	125			1,211
No. 2, Meisic					566	118			1,533
No. 4, Sampaloc					391	199			1,034
No. 5, Tondo					423	256			1,168
No. 6, Paco					871	572			2,459
Total					2,589	1,270			7,405

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age. For first and second injections see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MARCH, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections[1]	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	743	264	587	149	....	....
No. 2, Meisic	2,165	281	876	151	....	....
No. 4, Sampaloc	515	345	358	272	....	....
No. 5, Tondo	732	474	465	320	....	....
No. 6, Paco	937	738	655	662	....	....
Total	5,092	2,102	2,941	1,554	....	....

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections[1]				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	570	242	387	140	....	....	1,819	1,263	(1)
No. 2, Meisic	1,510	290	720	160	....	....	4,246	1,907	....
No. 4, Sampaloc	552	386	466	257	....	....	1,798	1,353	....
No. 5, Tondo	1,131	631	931	528	....	....	2,968	2,244	....
No. 6, Paco	1,252	730	1,097	721	....	....	3,657	3,135	....
Total	5,015	2,279	3,601	1,806	....	....	14,488	9,902	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	3,801	770	2,010	1,021
Agusan	3,475	726	1,228	1,521
Albay	42,710	6,299	25,659	10,752
Antique	4,878	2,210	1,390	1,278
Bataan	2,543	259	1,404	880
Batangas	39,354	5,343	24,949	9,062
Bohol	49,084	9,540	23,807	15,737
Bukidnon	757	142	299	316
Bulacan	6,496	2,041	2,237	2,218
Cagayan	2,830	907	790	1,133
Camarine Norte	381	253	36	92
Camarines Sur	4,887	1,205	1,956	1,726
Capiz	8,577	3,494	2,608	2,475
Catanduanes	1,356	509	314	533
Cavite	10,256	3,291	2,178	4,787
Cebu	27,281	9,812	7,087	10,382
Cotabato	3,408	920	860	1,628
Davao	259	250	2	7
Ilocos Norte	9,361	1,875	4,932	2,554
Ilocos Sur	11,359	1,831	5,389	4,139
Iloilo	25,203	9,220	9,282	6,701
Isabela	2,902	967	770	1,165
Laguna	9,690	2,255	3,613	3,822
Lanao	2,108	348	1,399	361
La Union	12,005	3,348	5,771	2,886
Marinduque	3,617	658	2,028	931
Masbate	1,556	311	702	543
Mindoro	1,964	448	766	750
Misamis	3,243	803	1,058	1,382
Mountain Province	8,597	1,969	4,247	2,381
Nueva Ecija	8,263	1,792	1,579	4,892
Nueva Vizcaya	3,871	600	1,716	1,555
Occidental Negros	11,841	5,540	3,697	2,604
Oriental Negros	8,097	1,588	3,717	2,792
Palawan	947	298	425	224
Pampanga	45,897	6,277	37,521	2,099
Pangasinan	26,305	9,011	3,835	13,459
Rizal	15,724	3,076	8,789	3,859
Romblon	2,802	775	369	1,658
Samar	6,359	1,079	4,214	1,066
Sulu	2,482	966	842	674
Surigao	1,460	307	563	590
Tarlac	6,333	1,479	2,738	2,116
Tayabas	12,886	3,361	5,258	4,267
Zamboanga	10,736	2,239	7,139	1,358
Total	467,941	110,392	221,173	136,376

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	244	69	708	399	871	1,270	1,823	1,738
Agusan	75	57	195	217	336	322	606	596
Albay	2,029	618	3,714	1,929	13,476	7,847	19,219	10,394
Antique	423	105	1,310	458	1,000	543	2,733	1,106
Bataan	230	80	432	278	764	728	1,426	1,087
Batangas	1,543	252	3,995	790	10,617	7,896	16,155	8,938
Bohol	1,551	325	5,078	1,302	15,717	10,016	22,346	11,643
Bukidnon	....	....	5	20	55	342	60	362
Bulacan	767	106	1,451	309	1,670	1,076	3,888	1,491
Cagayan	235	26	505	82	500	197	1,240	305
Camarines Norte	57	12	118	66	87	37	262	115
Camarines Sur	354	198	857	506	1,411	870	2,622	1,574
Capiz	537	149	1,590	614	2,508	1,809	4,635	2,572
Catanduanes	241	80	159	109	106	123	506	312
Cavite	1,174	187	1,726	372	4,577	1,802	7,477	2,361
Cebu	3,102	1,792	4,233	1,548	3,766	3,296	11,101	6,636
Cotabato	34	34	137	283	236	859	407	1,176
Davao	3	....	21	13	177	45	201	58
Ilocos Norte	883	60	1,264	212	2,506	2,668	4,153	2,940
Ilocos Sur	562	89	1,900	586	3,432	2,558	5,894	3,233
Iloilo	2,654	641	4,734	1,103	7,371	3,822	14,759	5,566
Isabela	37	27	366	402	608	666	1,011	1,095
Laguna	752	116	1,749	553	2,526	3,255	5,027	3,924
Lanao	114	8	353	47	444	234	911	289
La Union	1,018	216	1,917	761	2,253	1,989	5,188	2,966
Marinduque	201	76	333	130	1,140	632	1,674	838
Masbate	58	21	141	34	257	220	456	275
Mindoro	120	20	286	78	649	450	1,055	548
Misamis	108	77	244	204	744	550	1,096	831
Moutain Province	303	89	1,149	510	1,981	1,189	3,433	1,788
Nueva Ecija	1,483	200	1,009	509	2,032	1,691	4,524	2,400
Nueva Vizcaya	326	46	773	158	1,877	524	2,976	728
Occidental Negros	2,169	500	2,722	1,055	2,104	858	6,995	2,413
Oriental Negros	569	166	2,380	850	4,899	2,759	7,348	3,775
Palawan	12	4	95	34	264	114	371	152
Pampanga	1,546	150	5,202	904	15,996	13,034	22,744	14,088
Pangasinan	4,494	766	6,600	1,976	5,722	4,061	16,816	6,803
Rizal	1,371	338	1,846	723	3,937	4,029	7,154	5,090
Romblon	125	49	420	276	749	504	1,294	829
Samar	232	88	1,151	290	3,681	896	5,064	1,274
Sulu	74	26	401	120	1,047	653	1,522	799
Surigao	17	17	82	82	348	410	447	509
Tarlac	850	239	908	612	1,114	1,433	2,872	2,284
Tayabas	913	249	2,495	643	4,836	2,322	8,244	3,214
Zamboanga	100	148	487	640	1,194	4,425	1,781	5,213
Total	33,190	8,516	67,241	22,788	131,035	95,024	231,516	126,328

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	2,049	1,627	184	106	....	....
Bulacan	23	12	....	....	....	....
Cebu	....	....	91	64	....	....
Laguna	50	10	24	9	....	....
Pangasinan	160	169	91	141	....	....
Rizal	....	....	11	8	....	....
Total	2,282	1,818	401	328	....	....

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	1,988	1,514	171	109	....	....	7,178	570	....
Bulacan	69	35	....	....	....	....	139	....	....
Cebu	....	....	65	56	....	....	....	276	....
Laguna	55	22	35	6	....	....	137	74	....
Pangasinan	152	157	89	131	....	....	638	452	....
Rizal	....	....	11	11	....	....	....	41	....
Total	2,264	1,728	371	313	....	....	8,092	1,413	....

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	42	20	42	20	21	4
Bulacan	267	139	236	112	195	80
Camarines Sur	186	43	82	24	7	....
Catanduanes	71	1	71	1	....	....
Laguna	161	117	104	53	32	9
Pangasinan	600	446	209	176	75	101
Rizal	96	1	35	1	18	....
Romblon	97	236	3	6	....	....
Total	1,520	1,003	782	393	348	194

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	14	31	14	31	2	11	107	107	38
Bulacan	281	137	238	110	202	89	824	696	566
Camarines Sur	162	38	50	34	....	....	429	190	7
Catanduanes	86	3	86	3	....	....	161	161	....
Laguna	187	310	80	48	31	8	775	285	80
Pangasinan	569	381	205	157	58	65	1,996	747	299
Rizal	85	1	30	....	12	....	183	66	30
Romblon	44	184	7	6	....	....	561	22	....
Total	1,428	1,085	710	389	305	173	5,036	2,274	1,020

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[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Antique	328	513	141	290	....	....
Bataan	30	3	13	1	....	....
Batanes	136	235	....	....	....	....
Cagayan	94	113	25	1	....	....
Camarines Sur	10	7	13	....	....	....
Capiz	519	353	275	154	....	....
Cebu	324	28	103	11	....	....
Ilocos Norte	199	143	18	48	....	....
Ilocos Sur	689	189	1,040	183	423	16
Iloilo	35	41	17	34	....	....
La Union	389	308	228	360	....	....
Marinduque	430	377	519	636	....	....
Masbate	121	165	112	154	....	....
Misamis	58	12	58	22	....	....
Nueva Ecija	497	326	236	403	....	....
Nueva Vizcaya	35	163	35	163	....	....
Occidental Negros	220	82	168	76	....	....
Oriental Negros	639	1,362	222	540	....	....
Pangasinan	1,068	885	662	644	....	....
Rizal	400	956	316	669	....	....
Romblon	24	3	11	....	....	....
Sulu	103	8	....	....	....	....
Surigao	122	165	67	107	....	....
Tarlac	736	1,007	453	823	....	....
Tayabas	743	335	127	218	....	....
Zambales	65	32	63	29	....	....
Total	8,014	7,811	4,922	5,566	423	16

CONSOLIDATED MIXED (TYPOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Antique	374	439	137	207	......	......	1,654	775	......
Bataan	16	2	6	2	......	......	51	22	......
Batanes	57	151	......	......	......	......	579	......	......
Cagayan	53	88	7	5	......	......	348	38	......
Camarines Sur	9	6	......	......	......	......	32	13	......
Capiz	451	172	236	31	......	......	1,495	696	......
Cebu	297	19	122	13	......	......	668	249	......
Ilocos Norte	174	148	15	72	......	......	664	153	......
Ilocos Sur	530	189	632	173	248	6	1,597	2,028	693
Iloilo	35	34	23	23	......	......	145	97	......
La Union	266	156	116	146	......	......	1,119	850	......
Marinduque	468	565	294	487	......	......	1,840	1,936	......
Masbate	110	232	93	116	......	......	628	475	......
Misamis	50	16	32	30	......	......	136	142	......
Nueva Ecija	179	174	131	393	......	......	1,176	1,163	......
Nueva Vizcaya	22	79	22	79	......	......	299	299	......
Occidental Negros	117	137	113	45	......	......	556	402	......
Oriental Negros	405	695	314	447	......	......	3,101	1,523	......
Pangasinan	884	870	583	583	......	......	3,707	2,472	......
Rizal	213	719	169	458	......	......	2,288	1,612	......
Romblon	20	1	......	......	......	......	48	11	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	41	31	142	115	......	......	359	431	......
Tarlac	243	708	105	569	......	......	2,694	1,950	......
Tayabas	467	163	113	40	......	......	1,708	498	......
Zambales	42	25	42	22	......	......	164	156	......
Total	5,549	5,828	3,447	4,056	248	6	27,202	17,991	693

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF MARCH, 1924

Provinces and towns	Cases	Deaths
Palawan:		
Aborlan	[a] 4	....

[a] Suspected only.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES FOR THE MONTH OF MARCH, 1924

(No case and no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF MARCH, 1924

	Health districts					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending February, 1924:						
Minor	57	9	15	29	34	144
Sewer	11	56	14	7	4	92
Vacating	......	9	5	2	3	19
Filling	7	1	14	5	3	30
Total	75	75	48	43	44	285
Orders issued during the month:						
Minor	8	12	12	5	4	41
Sewer	2	1	....	....	....	3
Vacating	....	1	....	....	....	1
Filling	....	....	....	....	....	....
Total	10	14	12	5	4	45
Grand total	85	89	60	48	48	330
Orders completed during the month:						
Minor	2	4	5	4	6	21
Sewer	1	4	3	....	1	9
Vacating	....	....	1	....	....	1
Filling	....	....	....	....	....	....
Total	3	8	9	4	7	31
Orders cancelled during the month:						
Minor	1	....	....	....	....	1
Sewer	....	....	1	....	....	1
Vacating	....	....	....	....	....	....
Filling	1	....	1	....	....	2
Total	2	....	2	....	....	4
Orders pending during the month:						
Minor	62	17	22	30	32	163
Sewer	12	53	10	7	3	85
Vacating	....	10	4	2	3	19
Filling	6	1	13	5	3	28
Total	80	81	49	44	41	295
Strong material plans approved:						
New buildings including additions and alterations	33	25	24	28	14	124
Permits for minor building constructions:						
Approved	24	10	30	26	17	107
Disapproved	7	1	1	4	4	17
New buildings completed	4	12	16	6	6	50
Light and mixed material constructions:						
Permits approved	....	....	36	25	28	89
Permits disapproved	....	....	10	7	4	21
Total number of building projects passed upon	....	....	....	....	....	....
Prosecutions:						
Convictions	....	....	....	1	....	1
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	....	₱5	....	₱5
Plumbing permits issued	13	14	9	21	5	62
Plumbing projects completed	22	26	15	15	4	82
Premises connected to the sanitary sewer to February, 1924	1,707	2,880	1,095	583	427	6,692
Premises connected during March 1924	5	8	4	3	....	20
Total	1,712	2,888	1,099	586	427	6,712

Intramuros includes Ermita and Malate; Meisic includes Sta. Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Sta. Mesa; Paco includes Pandacan and Sta. Ana.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV APRIL, 1924 No. 4

In ourselves, we suffer for the sins we commit; in our communities, we suffer for the sins we permit.—TENNESSEE HEALTH DEPARTMENT.

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2. A Call for a Chance of Good Health among Students and Graduates.
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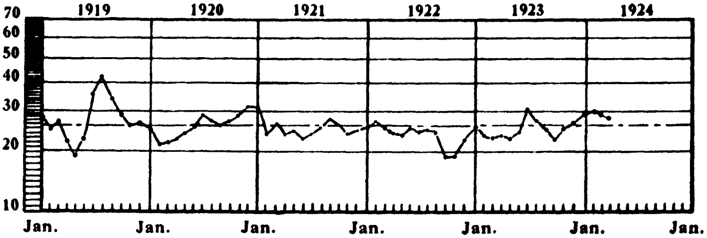
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



—.—— Average death rate for the last five years.

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COMMITTEE ON THE MONTHLY BULLETIN, P. H. S.

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L. Lopez Rizal, *Senior Medical Inspector, P. H. S., Member*
M. V. Arguelles, *Senior Surgeon, P. H. S., Secretary*

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV APRIL, 1924 No. 4

MEMORANDUM FOR MAYOR HALSEMA, THROUGH THE DIRECTOR OF HEALTH, REGARDING LAST REPORT ON IMPROVEMENTS OF SEWAGE CONDITIONS AT BAGUIO

MANILA, *May 8, 1923*

I

It has been reported lately that:

> "The present high degree of foulness of sewage (of Baguio) where it enters the creek be admitted as well as recognized," because "a very high proportion of suspended material was being discharged in the effluent of the septic tank. The effluent was about the color and appearance of pea-soup and was sufficient similarly to discolor the water of the creek below the sewer outlet while above this outlet the creek was clear and limpid."

The statement above was made because of the idea that "one of the first essentials of an efficient sewage purification plant is that it shall completely 'break up' all solid material and that the effluent shall be clear and sparkling," and as "the present method of disposal of sewage is by septic tank only, without the additional facilities for further purification which are in accepted use, such as contact beds and methods for chlorination," the following was affirmed:

1. That the size of the septic tank is "small" and "inadequate," that it is "inefficient" and consequently "will lead to a failure;"
2. That the effluent should be "clear, sparkling, and almost odorless;" and
3. That what is needed is more nitrification by anaërobic bacteria and that the supernatant "mat" which is highly important in excluding the air from the contents of the tank which aids the anaërobic organisms to flourish and function should not be interrupted "by the periodical drawing to the sludge beds."

Although the statement, "that the sewage of Baguio has a high degree of foulness when it enters the creek," could very well be admitted and recognized, yet it is not, in the main, a reasonable criticism of the plans of the committee or of the experimental work already undertaken which would definitely solve in the most economical way the sewage disposal of Baguio. As you very well said, the good name of Baguio has been once more at stake; and it will be so if every personal opinion is to be accepted as it comes.

Complying with your oral request, I shall cite herewith some of the principles, admitted in general practice, on the treatment of the sewage of cities which in my judgment are in opposition to the assertions above.

The first contention is "that the size of the septic tank now in use is inadequate." I must invite your attention first to the report made by Major Davidson in May, 1922, on the subject in which was stated that:

> The capacity of this tank (Sanitary Camp tank) permits the sewage to remain in it for approximately twenty (20) hours . . . The efficiency of this tank is very low.

Commenting on this statement of Major Davidson on August 12, 1922, I then remarked that the tank was "entirely normal" and that it was following the laws known on the best sewage treatment plants, and in this connection various paragraphs of George W. Fuller's book on "Sewage Disposal" were quoted. As the authority of Professor Fuller does not seem to have duly considered or at least given enough weight, I shall quote the following from Kinnicutt, Winslow, and Pratt in their book, *Sewage Disposal,* page 152:

> Valuable experiments upon the "tanking" of sewage, with reference to the determination of proper shape and capacity, have been made by F. Wallis Stoddart (1905) at the Horfield sewage works at Bristol, England. The result of these experiments was to show that, where the flow is subject to variations similar to those which occurred at Bristol, the tank should be designed for a 12-hour period, based on the average *dry-weather flow.* In this way the normal increase of about 50 per cent., which occurs during certain portions of the day, will change the rate of flow to correspond with *the most favorable period* (*i. e., eight hours*), and in times of rain the tank will still be able to handle the sewage which comes to it.

The Royal Commission on Sewage Disposal, United Kingdom, makes the following statement in regard to the proper capacity for septic tanks:

> . . . from general experience and a consideration of the evidence, we think it may safely be said that at few places should the sewage remain more than 24 hours or less than 12 in a septic-tank.

In Metcalf and Eddy's *American Sewage Practice*, Vol. III, page 427, the paragraph on "Design of Sedimentation Chamber" says:

> The length of the sedimentation chamber, or its radius if a radial-flow tank is used, is determined by the detention period necessary to secure the removal of the settling solids. American engineers have usually chosen from two to three hours and the Germans consider one to two hours enough.

Since the names of the above-mentioned authors are very familiar to every public health officer and especially to us, I believe it unnecessary to prolong unduly this memorandum by citing their respective qualifications and authorities.

The second contention is "that the effluent should be clear, sparkling, and almost odorless and that a considerable proportion of harmful bacteria should be destroyed."

Major Davidson reported 10 per cent reduction of bacterial content in the effluent of the tank "which although does not justify any definite conclusion, still it indicates a very low efficiency."

Supplementing the authorities quoted in a previous memorandum to the Director of Health relative to the said report of Major Davidson, I may add the following, from Metcalf and Eddy's Work, Vol. III, page 215, paragraph on the "Results of Septic Treatment":

> While the settling solids and a portion of the colloids may settle in a septic tank at first, the violent ebullition often carries large quantities of finely divided solids of the sludge into suspension, and thus causes them to be carried out with the effluent . . . The effluent frequently *possesses an offensive odor*, has a greater avidity of dissolved oxygen than fresh or stale sewage, and may contain substances inimical to oxidizing bacteria.

On page 395: "Tanks for Sludge Digestion":

> . . . The first of these is the septic tank, which does not differ essentially from a sedimentation basin in design, but is distinguished from it in operation by retaining the sludge until anaërobic decomposition has modified its character . . . As a result of it, the gases of decomposition lift particles of the sludge into the supernatant liquid, *sometimes making it more turbid than the liquid in the same tank* operated as a sedimentation basin . . .
>
> The third type of tank for sludge digestion is the Imhoff . . .

Page 218 of the same book says:

> . . . The effluent will contain suspended colloidal matter, which together with the remaining settling solids *will have a dirty turbid appearance;* and, if the detention period is short and sludge is not allowed to become septic in contact with the sewage, will have substantially *the same odor as when it entered the tank.*

In the Fifth Report of the Second Royal Commission, United Kingdom, which appeared in 1908, it is stated that:

> The liquor issuing from septic tanks is bacteriologically almost as impure as the sewage entering the tank.

Kinnicutt, Winslow, and Pratt, on page 447 of their observations, said:

> It is obvious that effluents (from septic tank) of this character cannot be considered satisfactory from the standpoint of bacterial purification. As Houston concluded, after a careful review of the subject, "The different kinds of bacteria and their relative abundance appear to be very much the same in the effluents as in the crude sewage. Thus, as regards undesirable bacteria, the effluents frequently contain nearly as many B. coli, proteus-like germs, spores of B. enteritidis sporogenes and streptococci, as crude sewage. In no case, seemingly, has the reduction of these objectionable bacteria been so marked as to be very material from the point of view of the epidemiologist."
>
> . . . Rideal (1906) quotes experiments by Pickard at Exeter, which show that typhoid bacilli may persist for two weeks in a septic tank and that contact bed treatment only effects a 90 per cent removal of these organisms.

Finally, the third point contended is, "That what is needed is more nitrification; consequently, more tank, more anaërobic action, and more scum."

Major Davidson reported that "two examinations of the effluent showed that it required considerable OXYGEN" . . .

Metcalf and Eddy, page 101, Vol. III, referred to, define *Nitrification as*—

> "The *process of oxidation* of free ammonia first to nitrite and then to nitrate by separate and distinct organism;" and then they add: "Oxidation of organic matter is affected by many 'aërobes' (not anaërobes) including those producing nitrites and nitrates."

Kinnicutt, Winslow, and Pratt's book, page 244, said:

> The main practical requirement for the whole process of nitrification, as worked out on the basis of these bacteriological studies, may be stated somewhat as follows: A porous substratum must be provided for the growth of the active organism. They must have an *abundant supply of oxygen* for their specific organism.

From this observation we can conclude that the nitrification reported to be needed can not be obtained by enlarging the septic tank.

It has been also mentioned that "The supernatant *mat*, which is highly important in excluding the air from the contents of the tank which aids the anaërobic organism by flourish and function, should not be interrupted." In this respect, Kinnicutt, Winslow, and Pratt (loc cit. p. 170) state:

> It was formerly believed that scum was essential to septic action. It has been shown, however, that scum is only incidental to such action,

> and indeed *may be distinctly detrimental to it*, since the solids in the upper layers of the scum are removed from the sphere of most efficient septic decomposition. The scum is thickest in tanks receiving unscreened sewage, and particularly if the sewage contains a large proportion of street washings. The grain from horse droppings furnishes an excellent basis for the growth of scum . . .

Metcalf and Eddy's book, page 213, on "Aërobic Action says:

> The septic process, aside from the physical sedimentation of the solids, depends upon anaërobic bacterial action, described on page 101. It was formerly considered essential to the most vigorous development of this action for it to be carried out in the absence of atmospheric oxygen and in the dark, thus providing ideal anaërobic conditions. *Experience has shown that this was not so*, but there are other reasons, which sometimes lead to roofing septic tanks.

And, on page 10, the following is copied:

> *Oxidation process.*—. . . As anaërobic action, generally considered synonymous with putrefaction, frequently, if not always, produces offensive odors, *it should usually be avoided.* It has sometimes been held that putrefaction was conveniently, if not necessarily, precedent to oxidation, *but this theory seems to have lost much support.*

It can, therefore, be concluded that:

(*a*) The reports to the higher authorities on the sewage disposal of Baguio are in open contradiction with the findings and proposed improvements pointed out by the investigators;

(*b*) Inasmuch as the effluent from the septic tank is subsequently treated by dilution into a stream, it is absolutely immaterial, as will be shown later, that the effluent is not clear, sparkling, and odorless. Therefore, the admittance and recognition of the proposition, "that the present high degree of foulness of sewage where it enters the creek," leads to nothing substantial; and

(*c*) That the idea that "One of the first essentials of an efficient sewage purification plant is that it shall completely 'break up' all solid material and that the effluent shall be *'clear and sparkling'* " is being carried out at the city to the furthest limit possible; and it can further be stated that it is the aim of the committee to deliver the flow of the diluting stream as safely as it is possible and consistent with the ulterior use of its waters by the inhabitants of the town of Trinidad.

II

Another opinion submitted for consideration was:

> "That any possibility of adequate *natural purification* of this foul sewage, before it reaches the irrigation intake, be disregarded as highly speculative and more than doubtful," because "the amount of dilution which the pre-

sent effluent undergoes in the Trinidad River is insufficient in the dry season to add materially to safety;" and because "in the writer's opinion the distance between the sewage outfalls for Baguio and the Teacher's Camp to the irrigation intake for Trinidad Valley is too short to give reasonable security from any natural processes of purification."

Contrary to this statement, there are some laboratory results that show in a conclusive way that physically, biologically, and without doubt chemically also, the river flow is being purified as it flows to the irrigation headworks. In other words, there are other signs of self-purifcation processes of the Trinidad River, which are similar to the findings of distinguished investigators on the self-purification of contaminated streams.

Thus, the late Professor Sedgwick, Director of the "M. I. T. Sanitary Research Laboratory," says:

> The results obtained by a *two years' study* of the stream in question prove that slowly moving water of this kind is able within the first three-fourths of a mile of its course to digest and highly purify effluents in large volume, such as it received. It appears, moreover, that, as might have been anticipated, the process of digestion is almost wholly biological; that it goes on mostly within the first mile of stream flow; and that it is extremely sensitive to conditions such as temperature, rainfall, and the amount and character of plant and animal life.

Various other investigators (Kolwitz, R—Royal Testing Station for Water Supply and Sewage Disposal at Berlin, Eng. New Vol. XVII and others) have expressed similar opinion that certain aquatic plants and animals living at the bottom of rivers may be greatly concerned in the reduction of the bacterial contents of sewage effluents discharged into or diluted with the river water.

It will be noted that the conditions at Trinidad River are similar if not exactly like those above described.

III

And, finally, among several recommendations drawn, the following was made with a view perhaps to correct at once the conditions at Baguio:

> "That the sewage of Baguio be made to undergo an effective purification by modern methods, including those for nitrification, oxidation, and chlorination before it is discharged into the creek." In this manner the water of the Trinidad River which receives the sewage effluent and later is used "for irrigation purposes on vegetables that may be eaten uncooked be classified as *pure.*"

Professor Whipple, in his book *The Value of Pure Water,* in an effort to define what is meant by pure water, says the following:

PURE AND WHOLESOME WATER

> To define the meaning of the expression "pure and wholesome water," which is so often found in water-supply contracts, would seem to be an

> easy matter, after all the study that has been given to the subject in recent years; but, although every one knows in a general way what is implied by this expression, yet when it comes to framing a definition in positive scientific terms, the problem is not so easy as it seems. This is not because the chemist and the bliologist do not know what pure water is, but because water has so many attributes which have to be taken into consideration, and because these attributes vary in importance in every instance. "Pure and wholesome water" is not a substance of absolute quality. *Strictly speaking, pure water does not exist in nature.* All natural waters contain substances in solution or in suspension; and in proportion as these substances are present, and in proportion as they are objectionable in character, the water is impure. Definitions of pure and wholesome water, therefore, generally state what foreign substances shall not be present, or in what amounts they are permissible, instead of defining the positive qualities which the water shall possess.

Professor Woodman and Norton of M. I. T. commence their chapter on "Safe Water and their Interpretation of Analysis," in their book on *Air, Water, and Food,*" as follows:

> Pure water, such as may be found in the laboratory, is neither necessary nor probably desirable for drinking.

Strictly speaking, if this is the case, indeed the Sanitary Engineer of the Philippine Health Service is at a loss to know as to how he can realize and reach this desired quality for the irrigation water, treating the sewage of Baguio by "modern methods of nitrification, oxidation, and chlorination" as it has been proposed, when the sewage outfall is more than three kilometers distance from the irrigation headworks. On the other hand, if the desired quality for the irrigation waters is other than what is meant in the quotations above, then comes to the mind of the writer the following question: What return is expected from the investment to be incurred in constructing the proposed plant? As W. H. Frost very well said: "It is not sufficient merely to state that there will be 'some' returns in the saving of life and health; it is necessary to prove the assertion and, if possible, to show the extent of the saving in definite terms." (Sewage pollution of streams.)

It is true that because of the superior credit of Baguio as a health resort, the finance of the City could even be overburdened for a little while; but, present conditions seem not to warrant any drastic measure as it has been recommended. Furthermore, it may be considered that whatever expenses will be incurred, shall be borne by the inhabitants of Baguio while the people of Benguet shall get the profits.

I must end this memorandum by inviting your attention to the following paragraph from a contribution of Rudolph Hering, D. Sc., in *A Half Century of Public Health,* edited by M. P.

Ravenel and published in commemoration of the 50th Anniversary (1921) of the foundation of the American Public Health Association which reads as follows:

> The final disposal of sewage became a subject of much controversy about 50 years ago. It was thought practicable and desirable to convert sewage into a valuable manure. It was also thought that even a slight discharge of sewage into our natural water-course would be injurious to health, and some believe that even sewage farming, particularly when used for vegetable raising, was unhealthful, although the use of manure was not considered objectionable. These views have since materially changed.

Respectfully submitted,

M. MAÑOSA,
Sanitary Engineer

A CALL FOR A CHANCE OF GOOD HEALTH AMONG STUDENTS AND GRADUATES

By TEOFILO CORPUS
Medical Inspector, P. H. S.

The saying that "health is the only wealth" is generally accepted by all. In fact, it is the solid foundation of a nation. When one talks of health, he also thinks of his health. Without health, a nation will surely fall by the wayside, because the inhabitants will cease to exist efficiently or to exist at all. Health carries with it a superior regard and esteem among civilized and educated countries and their people. How we would wish to have our country, our homes and surroundings sanitary and thoro to enjoy the best of health!

Undoubtedly, the subject of hygiene is included in the curriculum of every schools—both public and private—from the kindergarten to the various colleges of the different universities. In the primary schools, hygiene is taught several times a week. The intermediate schools teach it every school day. In the high schools and in many colleges, it is one of the requirements. Patterned with the up-to-date standard of American schools, the theoretical teaching of hygiene and sanitation in schools of this country is complete in every way.

The Philippine Government—in its insular, provincial, and municipal branches—through the Philippine Health Service and all its ramifications is spending more than three million pesos for health work annually. Directly, it is teaching the public the right and practical application of health through varied work, publicity, and education. Likewise, the Office of the Public Welfare Commissioner, the Red Cross, Hospitals, and other charity institutions perform their share in the propaganda of this humanitarian work. With this treasure of health knowledge at our command, we may be able to utilize it in the strict meaning of the word.

Let us turn our attention to the primary and intermediate school boys and girls. The students have most of the salient rules of the theories of hygiene and sanitation securely stored in memory so that they can recite any time by heart and pass an examination on the subject very easily. Those who put this health knowledge to good advantage are bound to succeed in their future undertakings fór their country's good. They are those who will obey and give first considerations of the simple rules of hygiene—such as personal cleanliness, sanitation of the yards and the home interiors, the proper disposal of garbage and water used for culinary purposes, the filling of cesspools especially in the provinces, the use of water-containers provided with faucets, the importance of segregating domestic animals such as pigs and chickens away from human habitations, and the need of the Antipolo system of toilets, all of which are some of the practical essential points. The interest of the school students must be stimulated by some sort of follow-up work between the schoolhouses and their homes in order to insist on these elementary principles of sanitation. To grade students on practice by regular inspections of the homes also seems plausible. In this way, the necessity of the knowledge on this important subject may be indelibly impressed upon the minds of the youngsters.

Now, the health of school graduates is another point to be considered. Our country will be fortunate if the school graduates and even the college graduates strictly utilize the essential laws of health and the practical application of these laws. Because of their higher education, it would naturally be expected that graduates from these various institutions of learning would show an intelligent and practical knowledge of hygiene, and thus our health standard will reach its high mark.

This will be one of the safest countries in which to live, if our practical knowledge of the most common communicable diseases and their prevention, the proper care of the body, the first aid for hygienic care of the sick and the wounded in case of emergnecy and the hygienic need of the healthy babies and the means to keep them healthy, besides the sanitation of the homes and premises as already cited are especially exercised by us with due care and diligence. This prescription for health will also especially prepare us as models for future healthy fathers and mothers which our country expects of us.

In this great struggle for progress and during the period of test for our emancipation, it seems that our high and normal school graduates and college graduates are morally responsible for a higher knowledge and wisdom regarding practical matters of health and right living which their high educational attainment might be expected to provide. It also seems that a more extensive and systematic instruction in the principles and practice of hygiene will have to be acquired. The primary and intermediate schools are the logical places in which to start such training—greater attention to be given to the practical application of the subject. The graduates must also make a decided stand that these simple every-day rules of hygiene are carried out in practice. The favorable effects of this training, if carried out properly and enthusiastically, sooner or later will be thoroughly generalized throughout the Philippine Islands, an accomplishment which will undoubtedly benefit more and more the eleven million Filipino inhabitants.

MISCELLANEOUS

COLONEL MUNSON, DOCTORS HEISER AND OROSA MAKE INSPECTION TRIPS

Colonel Munson, Doctors Heiser and Orosa went to Tayabas on March 30 to inspect the hospital site, and returned on the same date. Today they will proceed to Del Carmen, Pampanga, to visit the progress of the malaria campaign under the charge of Sanitary Engineer Tiedeman in coöperation with the Philippine Health Service.

THE PLAGUE OF MOSQUITOES

As in previous years, the complaints against the plague of mosquitoes which infect the City of Manila are received every day at the Office of the Philippine Health Service.

The city spends not less than five thousand pesos annually for crude petroleum to reduce the number of mosquitoes, but the results have not been very satisfactory.

The most frequent places for the breeding of mosquitoes are the drainage of the streets and esteros; the low and swampy places and the houses. It is very necessary to combat the cause in order to have a successful campagin against these insect enemies.

The street canals become the breeding places for mosquitoes, because three-fourths of the inhabitants of the city drain the water used for culinary purposes in these canals. This bad practice constitutes an infraction of the sanitary ordinances. The process of oiling these canals is not satisfactory, because dirty water retards the action of petroleum. Any measure taken of making these canals clean cannot well be carried out without the coöperation of the public. Oiling works well in low places. Fortunately most of these low lands are far from residential districts.

In the districts south of the Pasig River, where people are more careful, the breeding-places for mosquitoes represent one-third of those north of Pasig River only. In the north, the districts of Santa Cruz, Binondo, Quiapo, and Tondo and the subdistricts of San Lazaro and San Nicolas have the most breeding places for mosquitoes. The street canals and the yard at these places are insanitary.

The street canals are not cleaned very frequently not only because for lack of fund, but also for lack of water that may be used for cleaning them even once a week.

Coöperation of the neighbors is very necessary. The water from the houses should drain in the sewage canals or in places where these are absent, in the canals that the city and sanitary engineers may designate. All water receptacles should be mosquito-proof. Without this coöperation all sanitary measures to combat mosquitoes will fail.

INFORMATION FROM DOCTOR GUIDOTE

In a letter recently received from Dr. Jose Guidote, Philippine Health Service pensionado in America, he informs the Director of Health that he is taking special work at the Bureau of Communicable Disease in the State Department of Maryland. He is also taking public health work at the School of Hygiene and Public Health of the Johns Hopkins University leading to the degree of certificate in public health. He will *finish the work next June, when he* will return to the Philippines by way of Europe. He will study public health work implanted in several European countries.

VISITING TRIP TO CULION

There will be a visiting trip going to Culion to give the people an opportunity to visit their relatives there. This trip will leave Manila on April 9, 1924.

Those concerned are advised to arrange their passes at the Central Office of the Philippine Health Service, Sta. Potenciana Building, Intramuros, before the date of sailing of the boat as above stated.

ASSIGNMENTS

Senior Medical Inspector Felino Simpao of the Philippine Health Service has been assigned as representative of this Service in the party of provincial governors and insular officials who will tour the southern provinces on April 7.

Dr. Vicente de Laserna, president of the first sanitary division of the Province of Bohol, has been ordered to take the Refresher Course in the Central Office effective April 1, 1924.

PROVINCIAL HOSPITALS UNDER CONSTRUCTION

The provinces of Occidental Negros, Tayabas, Pangasinan, Ilocos Sur, and Nueva Ecija are at present constructing their provincial hospitals. The hospitals of the first three have a capacity of 30 beds each, and the last two of 8 beds each.

The total estimated expenditure for maintenance of Stage I hospital is ₱12,000 annually; Stage II hospital ₱43,000, and Stage III ₱50,000, which will have 35 beds capacity.

The district health officers are advised to submit their estimates to the provincial boards with the request that the necessary funds be appropriated considering the stage being constructed.

NEW ASSIGNMENTS

Nurse Isabelo Escobar of San Lazaro Hospital has been directed to relieve Nurse Salomon P. Sipin stationed at the Metropolitan Watershed Reservation at Bosoboso, the latter to return to his former station.

Assistant sanitary inspectors Felix Plaza, Carlos de Lara, Anselmo Bugarin, Floro Vizconde, and Epitacio Geronimo, graduates of Course for Sanitary Inspectors, have been directed to proceed to Calapan, Mindoro, for special assignment under the charge of the chiefs of the three different health units organized in connection with the health campaign to be conducted in said province.

Nurse Susana G. Peralta of the Public Health Nursing has been directed to proceed to Camp Stotsenberg and report to camp surgeon for duty with the civilian community there.

EMERGENCY UNITS

The three emergency units which have been organized for temporary health and sanitation campaign to be detailed in the west coast of Mindoro are as follows:

Unit No. 1:

Elpidio Rafael, chief inspector, station at Pinamalayan.
Carlos Lara, emergency sanitary inspector, station at Bongabong.

Unit No. 2:

Hilario Raymundo, chief inspector, station at San Jose.
Floro Vizconde, emergency sanitary inspector, station at Old Bulalacao.
Ricardo Perez, emergency sanitary inspector, station at Sablayan.
Anselmo Bugarin, emergency sanitary inspector, station at Mansalay.

Unit No. 3:

Andres M. Bantigui, chief inspector, station at Paluan.
Felix Plaza, emergency sanitary inspector, station at Mamburao.
Epitacio Geronimo, emergency sanitary inspector, station at Abra de Ilog.

Members of Unit No. 1 shall proceed to their stations via Calapan.

Members of Unit No. 2 shall proceed to their stations via San Jose.

Members of Unit No. 3 shall proceed to their stations via Luban.

NEW ASSIGNMENT

Dr. Severina Luna Orosa has been assigned in place of Dr. Felipe Arenas as school physician for the schools north of the Pasig River in the City of Manila and detailed in the Office of General Inspection effective April 7, 1924. She shall visit the schools frequently to investigate sanitation and cleanliness, make periodical medical examinations of each child for the detection and correction of defects, record the findings on forms prescribed and give lectures at least once a month on personal hygiene especially the early recognition of communicable disease. She shall attend the school clinics and dental clinics established in the health stations and supervise the work of school nurses. She shall also submit a monthly report of the work accomplished.

SUPERVISION OF THE SALE OF VIRUSES, SERUMS, TOXINS, AND ANALOGOUS PRODUCTS TO BECOME EFFECTIVE MAY 1, 1924

Announcement is hereby made that the provisions of Act 3073 will become effective on May 1, 1924, referring to the regulation of the sale of viruses, serums, toxins, and analogous products in the Philippine Islands, preparation, importation and exportation of same from or into the Philippine Islands.

Persons, firms, or corporations concerned are hereby notified that they are required to apply for license to the Secretary of Public Instruction, through the Director of the Philippine Health Service.

Applications for license should be addressed to Dr. M. V. Arguelles, San Lazaro Hospital, who has been assigned by the Director of the Philippine Health Service to inspect the establishments and attend to the execution of the other provisions of Act 3073 and the regulations published in the Official Gazette of October 13, 16, and 18, 1923.

SURVEY OF PUBLIC HEALTH ADMINISTRATION IN LEYTE

District Inspector Vicente Kierulf of the Philippine Health Service has been directed to make a survey of the public health administration of Leyte, effective April 21, 1924, and the report on such a survey to be submitted not later than May 1, 1924.

Between August, 1923, and February, 1924, among other things, two extensive epidemics of dysentery occurred, one in the eastern coast, and another and later in the municipality of Ormoc in western Leyte. The incidence of malaria and typhoid also show increases over that of the past five years.

The points to be investigated are as follows: (1) Whether the grouping of the municipalities to make up sanitary divisions is satisfactory; (2) to determine the immunity of population against smallpox vaccination; and (3) cause of repeated outbreak of dysentery and increased incidence rates of malaria and typhoid in relation to water supply, fecal disposal and sanitary supervision of markets and sale of food stuffs.

NEW ASSIGNMENTS

Dr. Miguel de la Rama has been appointed temporary resident physician in this service, and has been directed to proceed to Nueva Vizcaya for duty as resident physician in the Bayombong Hospital.

Mrs. Juanita P. de la Rama has been appointed district nurse of Nueva Vizcaya and has been directed to report for duty to the district health officer of said province.

Nurse Olimpia Lumen has been assigned for duty in the Baguio Hospital.

DISTRICT HEALTH OFFICER OF PAMPANGA IN MANILA

Dr. Fernando Sioco, district health officer of Pampanga, conferred with the Director of Health on April 9, 1924, in connection with the establishment of an emergency hospital at Guagua.

DOCTOR CRISOLOGO RETURNS TO APAYAO

Dr. Victorino Crisologo, subdistrict health officer, Subprovince of Apayao, has completed the Refresher Course and has been directed to return to his station.

TOILETS AND URINALS NECESSARY IN RESTAURANTS, CARINDERIAS, AND REFRESHMENT PARLORS

The Director of Health has promulgated the following regulations regarding toilet facilities and urinals in places where foods or drinks are prepared, served, or offered for sale:

1. Restaurants, carinderias, ice-cream, and refreshment parlors or other places wherein foods are prepared, served, sold or offered for sale, shall provide with hand-washing facilities, flush closets and urinals.
2. Closets and urinals and drainage of kitchen must be connected with sanitary sewer or septic tank.
3. No closets and urinal compartments shall be in direct communication with kitchens or rooms wherein foods are prepared or served.
4. The side walls, ceiling, doors and windows of the closets or urinals shall be constructed fly-proof. Doors to be made self-closing.

These publications are published for the knowledge of all concerned.

SCHOOL OF PUBLIC HEALTH NURSING

The third class of the School of Public Health Nursing of the University of the Philippines will be open on May 16, 1924. Only 30 applicants will be admitted this year, and each of the different organizations will be represented.

The Director of Health sends circulars to the district health officers requesting them to submit names of nurses already in the employ of the Service, whom they desire to take the course, so that a list may be submitted to the director of the school.

While taking the course in the City of Manila, the nurses will be considered on special detail and will draw the same salary from their respective provinces with priviledges for per diems and traveling expenses, subject to existing rules and regulations, provided there is available fund for the purpose. The nurses having insular status will draw their salary from the insular fund with the same priviledges.

VISITING TRIP TO CULION

There will be a second visiting trip to Culion Leper Colony on April 21, 1924, at 8 a. m., to give relatives opportunity to visit the inmates at the colony.

Those who desire to avail themselves of this trip shall report to the Philippine Health Service, Sta. Potenciana Building, Intramuros, to secure their passes.

In addition to this visiting trip there is a regular trip to the colony on or about the fifth of each month, where a limited number of ten visitors may be able to visit their relatives there free from transportation expenses. This has been going on since last year by arrangement made between the Director of Health and that of the Director of the Bureau of Commerce and Industry. Letters for courtesy transportation for this regular trip may be obtained from the Office of the Executive Officer of the Philippine Health Service on the first of each month.

MR. YANGCO OFFERS HIS BOAT TO BE USED BY VISITORS AT THE COLONY

By courtesy of Honorable Teodoro Yangco, there will also be a visiting trip to the colony on May 15, 1924. Those that will not be able to go on the trip of April 21 may go on this trip. Mr. Yangco's boat *Negros* has been offered free for this purpose and about one hundred and fifty persons may be accommodated.

COMMENCEMENT EXERCISES AT THE ZAMBOANGA GENERAL HOSPITAL TRAINING SCHOOL FOR NURSES

Dr. Jacobo Fajardo, chief of the division of provincial sanitation of the Philippine Health Service, reports that the first commencement exercises of the Zamboanga General Hospital Training School for Nurses took place at the Plaza Theater of the city on April 5, 1924.

Doctor Fajardo also reports that during the commencement, the executive officers of the school had to refuse admission to a large number of people who were anxious to witness the graduation ceremony, on account of the fact that the theater was already crowded half an hour before the exercises. He states that the people of Zamboanga are very enthusiastic about the Training School for Nurses and the graduates received numerous compliments from the people of Zamboanga.

The graduates are Pilar Atilano, Nieves Bazan, Anselma Romero, Guillermo Torres, Genta Takesuye, Rosario Namoc, Fulgencia Padrigao, Aurelia Supe, Severa Col, Consolacion Enaya, Clotilde Tonolete, Rafael Creer, Abdul Attip Razul, Juan Valera, and Procesa Manlapas. These are 15 in number.

Hon. Delfin Jaranilla, Judge, Court of First Instance, gave the commencement address and Doctor Fajardo gave an address to the graduates.

DOCTOR LAYGO LEAVES FOR INSPECTION

Dr. Pacifico Laygo, acting assistant chief of the division of provincial sanitation of the Philippine Health Service, has left this morning for inspection in the northern provinces in company with His Excellency, the Governor-General.

VISITING TRIP TO CULION CHANGED TO APRIL 23

Instead of April 21, 1924, as publicly announced yesterday, the visiting trip to Culion Leper Colony will definitely leave Manila on April 23, 1924, at 8 a. m.

DOCTOR PADUA ASSIGNED AS ACTING ASSISTANT CHIEF, DIVISION OF COMMUNICABLE DISEASES

Medical Inspector Regino G. Padua has been assigned, in addition to his other duties, as acting assistant chief of the division of communicable diseases of the Philippine Health Service, effective April 16, 1924.

DOCTOR OROSA TO INSPECT CUYO AND PALAWAN HOSPITALS

Dr. Sixto Orosa, acting chief, division of hospitals, laboratories and dispensaries of the Philippine Health Service, has left on April 16, 1924, to inspect Cuyo and Palawan Hospitals and to submit the results of his inspection to the Director of Health on his return.

SIBUL SPRINGS IN GOOD SANITARY CONDITION

Dr. Catalino Buktaw, resident physician of the Philippine Health Service, stationed at Sibul Springs, San Miguel, Bulacan, reports that the springs are in perfect sanitary conditions.

He also reports that the amount of ₱10,000 solicited by the Committee on Improvements will be inverted to beautify the locality. The committee desires to extend the park around the springs and to construct a bathing pool besides.

CULION LEPER COLONY MEDICAL BOARD

A medical board has been created at the Culion Leper Colony. It is composed of the chief physician, chief pathologist, chief chemist and the chief of the colony.

This board shall have general control of and be responsible for all matters pertaining to the professional care and treatment of lepers, the study of leprosy and the special technical medical, nursing and health work pertaining to the colony. It shall act as an advisory body to the chief of the Culion Leper Colony with regard to administration.

The chief of the colony shall be its administrative head. He shall have administrative and executive control of and be responsible for all matters pertaining to the management of the colony other than the technical medical, surgical and health matters enumerated above.

The board shall draft such rules and regulations as may be necessary to carry the general provisions of the order into effect, and transmit the same to the Director of Health for his action.

CONTROL OF COMMUNICABLE DISEASES IN MANILA

The Philippine Health Service is at present proposing to control as far as practicable the diagnosis of communicable diseases. Private physicians, when dealing with a case of suspected or actual communicable disease, may request, through this Office, any examination to be performed in the Bureau of Science, either clinical or serological, to confirm or elucidate a diagnosis. The plan is to interest all physicians to send their specimens, through this Office, and to offer to do the examination free of charge for indigent patients. It is believed that in this way, by having a copy of the report of the analysis of the examination performed, the Philippine Health Service shall have a better control of all cases of communicable diseases occurring in the city.

Private physicians will first notify the Philippine Health Service as to the existence of any communicable disease, giving the date and name and residence of the patient. The Philippine Health Service officials will get the required specimen by proper notification from the practicing physician in case the latter is unable to do so.

The specimens to be submitted are blood for Wassermann, widal and malaria; smears for gonococcus, urine for typhoid, feces for cholera and dysentery, sputum for tubercle bacilli and pneumococci, swabs for diptheria, spinal fluid for meningitis and syphilis and so forth.

COURSE FOR SANITARY INSPECTORS

Anouncement is hereby made that the third class, Course for Sanitary Inspectors, will be opened on June 16, 1924. The course will last six months. The curriculum of the last two years will be followed with very slight modifications.

Admissions will be limited to the following:

(1) *Provincial students.*—One or two students from each province. The selection will be made among the provincial sanitary inspectors who are recommended by the district health officers. Such appointees are required to sign a contract to serve as an employee of the Philippine Health Service for a period of not less than two years after successfully passing the required examinations.

The salary, travelling expenses and per diems, if the latter is provided for, shall be paid from the provincial funds.

The question of temporary appointments for service in the provinces to take the place of the students while taking the course in Manila is left entirely to the discretion of the district health officers and the provincial boards.

(2) *Insular students.*—These are appointed among such employees paid from the insular funds, as may be recommended by the chiefs of divisions and offices.

Students are required to sign a contract to serve the Philippine Health Service for a period of not less two years after successfully passing the required examinations.

Applications properly approved and recommended by the district health officers or chiefs of division or offices should be sent to Dr. M. V. Arguelles, secretary, Course for Sanitary Inspectors, before June 1, 1924.

Applicants who are not employees (provincial or insular) will not be considered.

For both insular and provincial applicants preference will be given those with high preparatory training. District health officers are advised to give preferential recommendation to such employees that have high school education.

VISITING TRIP TO CULION

S. S. *Basilan* is expected to leave on April 24, 1924, 8 a. m. instead of April 23 as previously announced. Boat is expected to arrive today.

NEW ASSIGNMENT

Dr. Proceso Gabriel, medical officer, Meisic Health Station No. 2, has been designated as acting chairman of the Board of Masseurs until senior medical inspector, Felipe Arenas, the regular incumbent, returns to assume his duties as such. Doctor Gabriel will handle papers relative to this subject and to schedule dates of examination for masseurs.

Dr. Manuel V. Arguelles has been assigned as inspector under the Biologic Products Board created by Act 3073. Doctor Arguelles has been directed to open an office, make inspection under the Board and prescribe in the regulations promulgated by the same.

RECTIFICATION OF DOCTOR PADUA'S ASSIGNMENT

Medical Inspector Regino G. Padua has been assigned as acting assistant chief of the division of communicable diseases of the Philippine Health Service and not as acting assistant chief of the division of hospitals, laboratories, and dispensaries as announced in some local newspapers.

WORK OF CITY SCHOOL NURSES DURING VACATION PERIOD

In order to insure the continuity of the work undertaken by the school nurses, it has been ordered that during this vacation period the city nurses should spend their time for home visiting and the instruction of parents and guardians of children and home hygiene and sanitation. For the purpose of this order, the school inspection districts have been constituted with the following assignment of nurses:

NORTH OF THE PASIG RIVER

Districts	Comprising	Nurse in charge
First	Tondo and Binondo	Mrs. Maria Vinteres.
Second	San Nicolas and Santa Cruz	Miss Miguela Cruz.
Third	Quiapo, San Miguel, and Sampaloc.	Miss Carmen Lanot and Miss Magdalena Caces.

SOUTH OF THE PASIG RIVER

Fourth	Intramuros, Ermita, and Malate.	Miss P. Portugal and Mrs. Juanita L. Maneja.
Fifth	Paco, Pandacan, and Santa Ana.	Mrs. Francisca A. Valdez.

Each nurse is required to submit to the School Medical Inspector of her district a monthly report of the number of houses visited by her, giving the names of the streets and the number of the houses, as well as the number of parents or guardians instructed. The medical inspector will in turn submit a full report of the work performed by the nurses to the Director of Health, through the Chief, Office of General Inspection.

EDUCATIONAL CAMPAIGN IN PAMPANGA

The Rockefeller Foundation in coöperation with the Philippine Health Service has scheduled meetings for Floridablanca and Porac on April 29 and 30, respectively. Talks on malaria will be given by health officers of Pampanga. Great attendance is expected.

TRAVELING HEALTH UNIT IN BATANGAS

A health unit has been formed in the Province of Batangas. This is composed of one president of sanitary division and five assistant sanitary inspectors. This unit travels from municipality to municipality and from barrio to barrio to make a health campaign.

Its work, among other things, is a general clean-up of the locality. Garbage are collected and burned. All breeding places for flies are suppressed. Water supplies are inspected and corrected and superficial uncovered wells are disinfected. All existing stores for foods and drinks are inspected and screaned. Breeding places for mosquitoes are corrected by filling and proper drainage.

From the time the health unit has started its work up to the present time, 1,444 food-handlers were vaccinated in this district with cholera and typhoid vaccinations, and a total of 3,963 Antipolo closets were already built. The health unit is continuing its work.

STANDARD OF BACTERIOLOGICAL EXAMINATION OF WATER

The Director of Health issues a circular that in the interpretation of the results on bacteriological examinations of water to determine its safety for drinking purposes, more than 500 colonies per cubic centimeter when the examination of the sample of water is made not more than four hours after taking the sample means unsafe water; positive presumptive test in one c. c. of water means suspected water; and the presence of Bacillus coli invariably or quite constantly in one c. c. means unsafe water.

In case of suspected water, the cause by which it gives presumptive test shall be investigated and proper remedies applied to purify the water. In case of unsafe water, same must be condemned; but if used, only after boiling.

VISITING BOAT TO CULION LEAVES APRIL 29

Steamship *Corregidor* will definitely leave to bring visitors to Culion Leper Colony on April 29, 1924, at 8 a. m. Magallanes Landing is the starting point.

NEW ASSIGNMENT

Senior Medical Inspector Vicente Kierulf has been appointed District Health Officer of Leyte, effective the date he assumes the duty as such, relieveing Medical Inspector Jose Vidal who will report to the Central Office for new assignment.

VISITING TRIP TO CULION LEAVES FOR CEBU ON MAY 3

Steamship *Basilan* will leave for Cebu to take visitors to Culion Leper Colony from this point and Iloilo on May, 3, 1924, at 8 a. m. Magallanes Landing will be the starting point.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of April, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,184
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

Date	Pressure,[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	758.45	28.4	35.9	7	21.8	6	29.9	30.4
11-20	59.01	28.4	36.2	15	21.7	20	30.2	30.6
21-30	58.60	27.9	34.9	23,28,30	21.2	21	29.9	30.2

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	69.8	77.8	3	64.6	8
11-20	67.2	73.2	16	60.1	19
21-30	67.6	73.3	26	62.6	28

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer (open air)[2]		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SE	2,089.5	263.5	2	70.7	8.1	7, 8
11-20	SE	2,094.0	247.0	16	74.8	8.6	15
21-30	SE	1,964.5	224.0	26	69.2	8.0	30

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	81 55	9 25	1	0.0	0
11-20	83 50	10 35	15	0.0	0
21-30	83 15	10 20	29, 30	8.6	1

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[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	7	3	10	38.85
Filipinos	611	559	1,170	50.56
Spaniards	1	....	1	6.23
Other Europeans	1	2	3	32.44
Chinese	36	24	60	40.91
All others	2	1	3	16.71
Total and average	658	589	1,247	49.29

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	133	123	256	7	7	14	270	86.80
No. 2, Meisic	101	104	205	4	8	12	217	25.04
No. 4, Sampaloc	100	91	191	5	4	9	200	48.71
No. 5, Tondo	214	171	385	11	14	25	410	61.12
No. 6, Paco	79	65	144	4	2	6	150	55.37
Total	627	554	1,181	31	35	66	1,247	49.29

Number of births attended by physicians, living, 269; stillbirths, 16.
Number of births attended by midwife, living, 115; stillbirths, 5.
Number of births attended by family, living, 863; stillbirths 16.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2		2	7.77
Filipinos	298	343	641	27.70
Spaniards	1		1	6.23
Other Europeans	2		2	21.62
Chinese	27	3	30	20.45
All others	2		2	11.14
Total and average	332	346	678	26.80

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	112	87
Divorced		
Widowed	32	69
Single	256	226
Condition not stated	4	1
Total	404	383
Grand total	787	

Stillbirth	38
Number of death with medical attendance	393
Nnmber of death without medical attendance	394

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	28	33	1	1	63
30 days to under 1 year	59	58	13	13	138
1 year to under 2 years	40	49	7	2	98
2 years to 4 years	37	29	1	3	70
5 years to 9 years	6	7	2	3	18
10 years to 14 years	2	8	2	1	13
15 years to 19 years	9	15	2		26
20 years to 29 years	45	33	7	4	89
30 years to 39 years	22	22	8	4	56
40 years to 49 years	21	20	8	3	52
50 years to 59 years	20	21	13	2	56
60 years to 69 years	20	16	2		38
70 years to 79 years	16	15	2		33
80 years to 89 years	6	15	1		22
90 years to 99 years	1	10			11
100 years and over					
Age not stated				1	1
Total	332	346	69	37	784

Three (3) male Filipino of 25, and 29 and about 50 years of age, permanent residence unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual deathrate per 1,000
No. 1, Intramuros	149	47.90
No. 2, Meisic	109	12.58
No. 4, Sampaloc	96	23.38
No. 5, Tondo	369	55.01
No. 6, Paco	64	23.63
Total	787	31.11

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever	....	....	8	8	....	....	....	....	1	....	....	....	17
4. Malaria	....	....	4	....	....	....	....	....	1	....	....	....	5
4a. Malarial cachexia	....	....	....	1	....	....	....	....	....	....	....	....	1
6. Measles	....	....	5	3	....	....	....	....	....	....	....	....	8
10. Influenza	....	....	2	1	....	....	....	....	....	....	....	....	3
14. Dysentery	....	....	3	1	....	....	....	....	....	....	....	....	4
17. Leprosy	....	....	1	2	....	....	....	....	....	....	....	....	3
18. Erysipelas	....	....	1	....	....	....	....	....	....	....	....	....	1
20. Purulent infection and septicæmia	....	....	2	1	....	....	....	....	....	....	....	....	3
24. Tetanus	....	....	2	1	....	....	....	....	....	....	....	....	3
27. Beriberi	....	....	2	1	....	....	....	....	....	....	....	....	3
27a. Beriberi, infantile	....	....	18	15	....	....	....	....	....	....	....	....	33
28. Tuberculosis of the lungs	....	....	40	62	....	....	1	....	7	....	....	....	110
29. Acute miliary tuberculosis	....	....	1	1	....	....	....	....	....	....	....	....	2
30. Tuberculous meningitis	....	....	6	7	....	....	....	....	....	....	....	....	13
31. Abdominal tuberculosis	....	....	5	3	....	....	....	....	....	....	....	....	8
34. Tuberculosis of other organs	....	....	2	1	....	....	....	....	....	....	....	....	3
35. Disseminated tuberculosis	....	....	....	1	....	....	....	....	....	....	....	....	1
37. Syphilis	....	....	1	1	....	....	....	....	....	....	....	....	2
39. Cancer and other malignant tumors of the buccal cavity	....	....	....	3	....	....	....	....	....	....	....	....	3
40. Cancer and other malignant tumors of the stomach, liver	....	....	1	....	....	....	....	....	....	....	....	....	1
45. Cancer and other malignant tumors of other organs or of organs not specified	....	....	1	....	....	....	....	....	....	....	....	....	1
50. Diabetes	....	....	1	....	....	....	....	....	....	....	....	....	1
54. Anæmia, chlorosis	....	....	2	....	....	....	....	....	....	....	....	....	2
55. Other general diseases	....	....	....	....	....	....	....	....	1	....	....	....	1
56. Alcoholism (acute or chronic)	....	....	1	....	....	....	....	....	....	....	....	....	1

NUMBER OF DEATHS BY NATIONALITY AND SEX. OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			2	3									5
61. Simple meningitis:													
(1) Simple meningitis			14	13									27
(2) Cerebro-spinal meningitis (undefined)			1	1									2
64. Cerebral hæmorrhage, apoplexy			1	5					2				8
66. Paralysis without specified cause			2	2									4
67. General paralysis of the insane							1						1
68. Other forms of mental alienation			4	5									9
71. Convulsions of infants (under 5 years of age)			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			1	1									2
79. Organic diseases of the heart			8	13					3				24
82. Embolism and thrombosis			1										1
84. Diseases of the lymphatic system (lymphangitis, etc.)			1	1									2
IV. Diseases of the respiratory system													
89. Acute bronchitis			23	23									46
90. Chronic bronchitis			8	6						1			15
91. Broncho-pneumonia			32	40					2				74
92. Pneumonia			10	8					1				19
93. Pleurisy			1	2									3
V. Diseases of the digestive system													
100 Diseases of the pharynx									1				1
102. Ulcer of the stomach			1	1									2
103. Other diseases of the stomach (cancer excepted)			1	1									2
104. Diarrhœa and enteritis (under 2 years)			10	14									24
105. Diarrhœa and enteritis (2 years and over)			2	1					1				4
108. Appendicitis and typhlitis	1		1	3							1		6
109. Hernias, intestinal obstructions			3						1				4
113. Cirrhosis of the liver				1									1
115. Other diseases of the liver			4						1				5
116. Diseases of the spleen			1										1
117. Simple peritonitis (nonpuerperal)			1	1									2

VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acutenephritis			4	6									10
120. Bright's disease			9	5					2				16
122. Other diseases of the kidneys and annexa									1				1
124. Diseases of the bladder				1									1
126. Diseases of the prostate			1										1
131. Cysts and other tumors of the ovary				1									1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
136. Other accidents of labor				1									1
138. Puerperal albuminuria and convulsions				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			3										3
143. Furuncle			1										1
144. Acute abscess				1									1
145. Other diseases of the skin and annexa				1									1
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)				1							1		2
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(3) Other congenital malformations			2	1									3
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			3	5						1			9
(2) Congenital debility			17	25					1				43
153. Lack of care			1										1
XII. Old age													
154. Senility			10	30	1				1	1			43
XIII. Affections caused by external causes													
158. Suicide by drowning				1									1
159. Suicide by firearms	1												1
169. Accidental drowning			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			2	2									4
Total	2		298	343	1		2		27	3	2		678
Grand total	2		641		1		2		30		2		678

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			1										1
4. Malaria									1				1
6. Measles				1									1
14. Dysentery			1										1
17. Leprosy				1									1
18. Erysipelas				1									1
20. Purulent infection and septicæmia			4										4
23. Rabies			1										1
24. Tetanus			4										4
27a. Beriberi, infantile			5										5
28. Tuberculosis of the lungs			13	1									14
30. Tuberculous meningitis				1									1
31. Abdominal tuberculosis			1	2									3
34. Tuberculosis of other organs			1										1
35. Disseminated tuberculosis			2										2
53. Leucæmia				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1	2									3
66. Paralysis without specified cause			1										1
68. Other forms of mental alienation			2										2
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart			1	1									2
IV. Diseases of the respiratory system													
87. Diseases of the larynx			1										1
89. Acute bronchitis			4	6									10
90. Chronic bronchitis			2										2
91. Broncho-pneumonia			7	2									9

92. Pneumonia			1	2									3
93. Pleurisy			1	1									2
95. Gangrene of the lungs									1				1
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			1	3									4
108. Appendicities and typhlitis			2										2
117. Simple peritonitis (nonpuerperal)				2									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis				1					1				2
120. Bright's disease			2	1									3
122. Other diseases of the kidneys and annexa			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included): (3) Other congenital malformations				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			1	1									2
XII. Old age													
154. Senility			1										1
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)							1						1
172. Traumatism by fall				1									1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2	3									5
183. Homicide by cutting or piercing instruments			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined				1									1
Total			65	37			1		3				106
Grand total			102				1		3				106

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
6. Measles					1	1
10. Influenza					1	1
14. Dysentery					2	2
18. Erysipelas					1	1
20. Purulent infection and septicæmia					3	3
24. Tetanus				2		2
27a. Beriberi, infantile				1	37	38
30. Tuberculous meningitis					1	1
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					9	9
(2) Cerebro-spinal meningitis					1	1
71. Convulsions of infants				1		1
78. Acute endocarditis					1	1
79. Organic diseases of the heart					2	2
84. Diseases of the lymphatic system (lymphangitis, etc.)	2					2
89. Acute bronchitis					28	28
90. Chronic bronchitis					5	5
91. Broncho-pneumonia					16	16
92. Pneumonia					2	2
93. Pleurisy					3	3
104. Diarrhœa and enteritis					18	18
115. Other diseases of the liver				1	1	2
145. Other diseases of the skin and annexa					1	1
146. Diseases of the bones (tuberculosis excepted)					1	1
150. Congenital malformations (still-births not included):						
(3) Other congenital malformations		1		3		4
151. Congenital debility, icterus, and sclerema:						
(1) Premature births (not still-born)	5			4		9
(2) Congenital debility	14	1	2	15	13	45
153. Lack of care					1	1
Total	21	2	2	27	149	201

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,180
Number of rats caught by spring traps	2,671
Number of cage wire traps set	630
Number of rats caught by cage wire traps	0
Number and kinds of baits (coconuts)	21,810
Number of poison portions placed	16,525
Number of rats found poisoned	432
Number of rats killed by clubs, and other weapons	1,203
Number of rats foumd dead from other causes	674
Total number of rats otherwise caught, found dead, or killed	4,980
Total number of rats sent to the laboratory for examination	4,980
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF APRIL, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	9	2	9	2	8	1	8	2	4	0	16	1	54	8
Female	3	0	6	3	7	1	8	3	4	1	13	0	41	8
Home:														
Male	0	0	1	0	0	0	3	2	0	0	0	0	4	2
Female	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Total:														
Male	9	2	10	2	8	1	11	4	4	0	16	1	58	10
Female	3	0	6	3	7	1	9	3	4	1	13	0	42	8
Grand total	12	2	16	5	15	2	20	7	8	1	29	1	100	18

REMARKS:

Total cases reported within the month in the City of Manila		125
Resident cases	93	
Non-resident cases	32	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		18
Deaths among resident cases	17	
Deaths among non-resident cases	1	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		98
By autopsy	0	
By blood culture	14	
By widal reaction	20	
By urine examination	1	
By feces examination	1	
By clinical symptoms	62	
Confirmed as paratypoid fever		2
Cases not confirmed		25

Carriers—None.

DYSENTERIES REPORTED DURING THE MONTH OF APRIL, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	3	1	1	1	0	0	1	0	1	0	2	1	8	3
Female	0	0	1	0	0	0	1	0	0	0	0	0	2	0
Home:														
Male	0	0	0	0	1	1	0	0	0	0	1	0	2	1
Female	1	1	0	0	0	0	0	0	0	0	0	0	1	1
Total:														
Male	3	1	1	1	1	1	1	0	1	0	3	1	10	4
Female	1	1	1	0	0	0	1	0	0	0	0	0	3	1
Grand total	4	2	2	1	1	1	2	0	1	0	3	1	13	5

REMARKS:

Total cases reported within the month in the City of Manila		13
Resident cases	10	
Non-resident cases	3	
Total deaths reported within the month in the City of Manila		5
Deaths among resident cases	4	
Deaths among non-resident cases	1	
Cases not confirmed as dysentery		0

Carriers—None

CHOLERA REPORTED DURING THE MONTH OF APRIL, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	0	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	0	

Cholera carrier—None.

DIPHTHERIA REPORTED DURING THE MONTH OF APRIL, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Female	0	0	1	0	1	0	1	0	0	0	2	0	5	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Female	0	0	1	0	1	0	1	0	0	0	2	0	5	0
Grand total	1	0	1	0	1	0	1	0	0	0	2	0	6	0

REMARKS:

Total cases reported within the month in the City of Manila		19
Resident cases	17	
Non-resident cases	2	
Resident cases not confirmed as diphtheria	11	
Non-resident cases not confirmed as diphtheria	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases	0	
Deaths among non-resident cases	0	

Diphtheria carriers—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	9	8	5	1
Varioloid				
Varicella	14	1		
Smallpox				
Measles	19	16	5	3
Whooping cough	1			
Influenza	12	4	2	1
Bubonic plague				
Beriberi, adult	2	1	2	1
Beriberi, infantile	18	15	18	15
Pulmonary tuberculosis	120	95	49	63
Tuberculosis of all forms	13	12	13	12
Encephalitis lethargica	2			

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	6	2	1	
Varioloid				
Varicella	1			
Smallpox				
Measles	3	1		1
Whooping cough				
Influenza	2			
Bubonic plague				
Beriberi, adult				
Beriberi, infantile	5		5	
Pulmonary tuberculosis	[1]24	5	[1]15	1
Tuberculosis of all forms	4	3	4	3
Encephalitis lethargica				

[1] Two (2) permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF APRIL, 1924

Sera and vaccines	On band April 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	490,000	375,000	865,000	125,000	740,000
Anti-dysenteric serum (ampoules)	61	125	186	80	106
Anti-tetanic serum (units)		94,000	94,000	94,000	
Cholera vaccine (c. c.)	7,500	5,170	12,670	10,260	2,410
Dried vaccine virus (units)	2,100	40,000	42,100	39,800	2,300
Fresh vaccine virus (units)	110,000	340,000	450,600	310,200	140,400
Gonococcus vaccine (ampoules)					
Mixed cholera-typhoid vaccine (c. c.)	430	45,270	45,700	40,250	5,450
Normal horse serum (ampoules)					
Typhoid vaccine (c. c.)	4,730	32,680	37,410	32,030	5,380

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	1,171	136	1,025	10
Meisic	1,437	196	1,195	46
Sampaloc	1,504	293	1,192	19
Tondo	1,298	369	919	10
Paco	1,311	174	1,122	15
Total	6,721	1,168	5,453	100

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	146	8	55	72	9	2	210	82
Meisic	176	10	81	38	......	......	257	48
Sampaloc	218	5	258	136	......	......	476	141
Tondo	326	3	167	48	......	......	493	51
Paco	110	......	32	26	1	8	143	34
Total	976	26	593	320	10	10	1,579	356

Vaccine virus:

Received	14,200
Used	13,900
Remained	300

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF APRIL, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	......	......	......	......	422	296
No. 2, Meisic	......	......	......	......	667	93
No. 4, Sampaloc	......	......	......	......	239	224
No. 5, Tondo	......	......	......	......	171	228
No. 6, Paco	......	......	......	......	477	380
Total	......	......	......	......	1,976	1,221

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	450	309	......	......	1,477
No. 2, Meisic	......	......	......	......	287	72	......	......	1,119
No. 4, Sampaloc	......	......	......	......	311	245	......	......	1,019
No. 5, Tondo	......	......	......	......	421	256	......	......	1,076
No. 6, Paco	......	......	......	......	642	415	......	......	1,914
Total	......	......	......	......	2,111	1,297	......	......	6,605

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.
For first and second injections, see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF APRIL, 1924

Districts	Number of injections made in					
	Males					
	First injections		Second injections		Third injections[1]	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	718	487	454	366	....	....
No. 2, Meisic	1,255	201	1,044	143	....	....
No. 4, Sampaloc	608	687	223	324	....	....
No. 5, Tondo	330	232	278	191	....	....
No. 6, Paco	668	449	440	314	....	....
Total	3,579	2,056	2,439	1,338	....	....

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections[1]				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	684	456	547	382	....	....	2,345	1,749	([a])
No. 2, Meisic	902	180	666	144	....	....	2,538	1,997	....
No. 4, Sampaloc	915	721	441	314	....	....	2,931	1,802	....
No. 5, Tondo	307	234	285	231	....	....	1,108	985	....
No. 6, Paco	756	491	524	405	....	....	2,364	1,683	....
Total	3,564	2,082	2,463	1,476	....	....	11,281	7,716	....

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.
[a] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	4,996	964	2,657	1,375
Agusan	4,185	919	1,482	1,784
Albay	57,749	8,430	33,900	15,419
Antique	7,413	3,471	2,026	1,916
Bataan	4,322	575	2,279	1,468
Batanes	655	148	264	243
Batangas	48,894	6,417	31,531	10,946
Bohol	68,359	12,987	33,742	21,630
Bukidnon	2,044	278	883	883
Bulacan	14,883	4,597	5,394	4,892
Cagayan	6,961	2,454	2,063	2,444
Camarines Norte	1,108	415	330	363
Camarines Sur	4,887	1,205	1,956	1,726
Capiz	14,662	6,665	3,800	4,197
Catanduanes	5,365	1,711	1,175	2,479
Cavite	16,342	5,305	3,216	7,821
Cebu	33,861	12,583	8,277	13,001
Cotabato	5,940	1,782	1,256	2,902
Davao	502	349	79	74
Ilocos Norte	44,324	7,510	23,949	12,865
Ilocos Sur	15,209	2,944	6,992	5,273
Iloilo	33,620	12,776	12,074	8,770
Isabela	4,098	1,338	1,161	1,599
Laguna	9,801	2,271	3,703	3,827
Lanao	3,748	525	2,508	715
La Union	22,113	5,178	11,733	5,202
Leyte	16,256	3,770	7,563	4,923
Marinduque	4,507	835	2,432	1,240
Masbate	4,681	1,420	1,641	1,620
Mindoro	2,608	591	1,034	983
Misamis	10,026	3,087	3,067	3,872
Mountain Province	12,246	3,068	5,581	3,597
Nueva Ecija	10,469	2,419	2,213	5,837
Nueva Vizcaya	5,995	879	2,727	2,389
Occidental Negros	22,879	11,217	6,311	5,351
Oriental Negros	14,127	2,890	6,413	4,821
Palawan	2,303	439	1,384	480
Pampanga	73,381	11,270	59,201	2,910
Pangasinan	47,866	15,795	8,161	23,910
Rizal	18,899	3,877	10,351	4,671
Romblon	3,202	977	432	1,793
Samar	17,746	3,619	10,850	3,277
Sorsogon	3,092	1,621	612	859
Sulu	2,482	966	842	674
Surigao	1,950	433	731	786
Tarlac	11,802	2,498	6,030	3,274
Tayabas	17,191	4,953	6,642	5,596
Zamboanga	15,111	3,643	9,532	1,936
Total	754,860	184,064	352,180	218,616

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[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	343	86	911	502	1,082	1,754	2,336	2,342
Agusan	91	67	246	235	363	382	700	684
Albay	2,756	903	5,388	2,602	18,116	10,168	26,260	13,673
Antique	733	190	1,929	673	1,548	915	4,210	1,778
Bataan	389	125	812	567	1,151	1,224	2,352	1,916
Batanes	81	27	118	59	194	95	393	181
Batangas	1,672	283	4,124	815	10,710	7,915	16,506	9,013
Bohol	2,036	395	7,202	1,724	22,533	14,154	31,771	16,278
Bukidnon	13	1	44	56	336	706	393	763
Bulacan	1,897	253	3,532	989	3,416	2,052	8,845	3,294
Cagayan	742	85	1,667	270	2,111	774	4,520	1,129
Camarines Norte	110	24	253	124	310	132	673	280
Camarines Sur	354	198	857	506	1,411	870	2,622	1,574
Capiz	1,088	274	2,828	985	3,890	2,755	7,806	4,014
Catanduanes	727	187	862	362	627	418	2,216	967
Cavite	2,151	287	3,452	670	7,068	2,603	12,671	3,560
Cebu	3,877	2,208	5,471	1,910	4,422	3,969	13,770	8,087
Cotabato	74	42	276	536	487	1,627	837	2,205
Davao	38	12	86	37	225	104	349	153
Ilocos Norte	1,674	193	5,002	915	13,364	11,523	20,040	12,631
Ilocos Sur	789	118	2,630	799	4,594	3,087	8,013	4,004
Iloilo	3,675	732	6,813	1,449	9,428	4,937	19,916	7,118
Isabela	119	71	581	572	879	876	1,579	1,519
Laguna	752	116	1,760	554	2,541	3,330	5,053	4,000
Lanao	164	23	486	118	869	664	1,519	805
La Union	1,446	264	3,326	1,226	5,350	3,581	10,122	5,071
Leyte	136	42	485	131	607	252	1,228	425
Marinduque	260	102	504	151	1,469	879	2,233	1,132
Masbate	183	57	499	123	652	466	1,334	646
Mindoro	156	23	394	96	905	552	1,455	671
Misamis	404	246	868	586	2,731	1,839	4,003	2,671
Mountain Province	530	152	1,743	728	3,084	1,627	5,357	2,507
Nueva Ecija	1,912	258	1,404	686	2,314	2,047	5,630	2,991
Nueva Vizcaya	476	74	1,426	264	2,709	769	4,611	1,107
Occidental Negros	4,160	936	5,206	2,142	3,787	1,701	13,153	4,779
Oriental Negros	1,005	318	3,453	1,392	5,344	3,523	9,802	5,233
Palawan	12	4	98	111	1,100	145	1,210	260
Pampanga	2,787	263	7,150	1,529	23,524	21,728	33,461	23,520
Pangasinan	7,360	1,584	11,827	3,895	9,759	7,825	28,946	13,304
Rizal	1,791	380	2,368	936	4,585	4,515	8,744	5,831
Romblon	138	54	442	292	900	661	1,480	1,007
Samar	468	199	2,382	726	6,477	1,733	9,327	2,658
Sorsogon	216	44	204	67	651	97	1,071	208
Sulu	74	26	401	120	1,047	653	1,522	799
Surigao	45	29	190	133	475	494	710	656
Tarlac	1,477	372	1,707	1,309	2,007	3,103	5,191	4,784
Tayabas	1,290	829	3,399	892	5,933	2,904	10,622	4,125
Zamboanga	169	224	758	832	1,492	4,909	2,419	5,965
Total	52,840	12,880	107,564	36,396	198,577	143,037	358,981	192,313

[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	2,750	2,046	205	109	....	....
Batangas	462	197	9	9	....	....
Bulacan	59	18	....	....	....	....
Cebu	....	....	91	64	....	....
Laguna	66	10	37	9	....	....
Pangasinan	160	169	91	141	....	....
Rizal	19	....	30	8	....	....
Total	3,516	2,440	463	340	....	....

[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	2,781	1,894	192	112	....	....	9,471	618	....
Batangas	498	252	8	32	....	....	1,409	58	....
Bulacan	85	42	....	....	....	....	204	....	....
Cebu	....	....	65	56	....	....	....	276	....
Laguna	70	23	49	7	....	....	169	102	....
Pangasinan	152	157	89	131	....	....	638	452	....
Rizal	20	....	31	11	....	....	39	80	....
Total	3,606	2,368	434	349	....	....	11,930	1,586	....

[1] Incomplete reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	12	17
Albay	42	20	42	20	21	4
Bulacan	389	200	327	168	296	145
Camarines Sur	186	43	82	24	7	....
Catanduanes	82	4	82	4	1	....
Laguna	278	130	171	86	91	43
Misamis	37	5	....	....	....	....
Pangasinan	600	446	209	176	75	101
Rizal	285	63	216	5	245	3
Romblon	97	236	3	6	....	....
Total	2,008	1,151	1,138	494	748	313

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	17	18	29	31	64
Albay	14	81	14	31	2	11	107	107	38
Bulacan	402	208	327	170	293	149	1,199	992	883
Camarines Sur	162	38	50	84	....	....	429	190	7
Catanduanes	102	5	102	5	....	....	193	193	1
Laguna	280	331	147	72	77	35	1,019	476	246
Misamis	20	7	....	....	....	....	69	....	....
Pangasinan	569	381	205	157	58	65	1,996	747	299
Rizal	269	18	156	7	201	1	635	384	450
Romblon	44	184	7	6	....	....	561	22	.....
Total	1,874	1,204	1,019	491	648	279	6,237	3,142	1,988

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Antique	543	675	268	538	....	....
Batangas	341	188	79	109	....	....
Bataan	30	3	13	1	....	....
Batanes	136	235	....	....	....	....
Cagayan	94	118	25	1	....	....
Camarines Sur	10	7	13	....	....	....
Capiz	519	353	275	154	....	....
Cebu	519	106	176	45	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	410	162	65	188	....	....
Ilocos Sur	991	277	1,118	211	423	16
Iloilo	217	216	113	126	....	....
La Union	642	455	312	490	....	....
Marinduque	516	413	674	692	....	....
Masbate	121	165	112	154	....	....
Misamis	326	281	152	61	....	....
Mountain Province	16	188	....	....	....	....
Nueva Ecija	791	539	397	680	....	....
Nueva Vizcaya	35	163	35	163	....	....
Occidental Negros	220	82	168	76	....	....
Oriental Negros	639	1,362	222	540	....	....
Pangasinan	1,068	885	662	644	....	....
Rizal	2,648	1,090	1,788	865	....	....
Romblon	24	8	11	....	....	....
Sorsogon	14	44	....	....	....	....
Sulu	103	8	....	....	....	....
Surigao	122	165	67	107	....	....
Tarlac	736	1,007	453	823	....	....
Tayabas	1,128	443	238	342	....	....
Zambales	90	109	87	106	....	....
Total	13,063	9,770	7,523	7,116	423	16

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C. below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Antique	661	575	235	384	......	......	2,454	1,425	......
Batangas	460	157	103	60	......	......	1,146	351	......
Bataan	16	2	6	2	......	......	51	22	......
Batanes	57	151	......	......	......	......	579	......	......
Cagayan	53	88	7	5	......	......	348	38	......
Camarines Sur	9	6	......	......	......	......	32	13	......
Capiz	451	172	236	31	......	......	1,495	696	......
Cebu	460	120	189	65	......	......	1,205	475	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	373	154	104	191	......	......	1,099	548	......
Ilocos Sur	678	246	675	706	248	6	2,192	2,210	693
Iloilo	124	205	107	215	......	......	762	561	......
La Union	401	314	196	228	......	......	1,812	1,226	......
Marinduque	556	615	405	531	......	......	2,100	2,302	......
Masbate	110	232	93	116	......	......	628	475	......
Misamis	216	269	107	98	......	......	1,092	418	......
Mountain Province	1	50	......	......	......	......	255	......	......
Nueva Ecija	296	285	273	611	......	......	1,911	1,961	......
Nueva Vizcaya	22	79	22	79	......	......	299	299	......
Occidental Negros	117	137	113	45	......	......	556	402	......
Oriental Negros	405	695	314	447	......	......	3,101	1,528	......
Pangasinan	884	870	583	583	......	......	3,707	2,472	......
Rizal	837	854	928	617	......	......	5,429	4,198	......
Romblon	20	1	......	......	......	......	48	11	......
Sorsogon	11	52	......	......	......	......	121	......	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	41	31	142	115	......	......	359	431	......
Tarlac	243	708	105	569	......	......	2,694	1,950	......
Tayabas	709	267	190	103	......	......	2,547	873	......
Zambales	54	104	52	99	......	......	357	344	......
Total	8,299	7,468	5,185	5,400	248	6	38,600	25,224	693

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF APRIL, 1924

Province and town	Cases	Deaths
Mindoro:		
Calapan	[a]4	....
Total	[a]4	....

[a] Varioloid.

CHOLERA REPORTS RECEIVED FROM THE PROVINCES, FOR THE MONTH OF APRIL, 1924

(No case no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF APRIL, 1924

	Health districts					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending March, 1924:						
Minor	62	17	22	30	32	163
Sewer	12	53	10	7	3	85
Vacating	....	10	4	2	3	19
Filling	6	1	13	5	3	28
Total	80	81	49	44	41	295
Orders issued during the month:						
Minor	5	11	5	10	2	33
Sewer	....	....	1	....	....	1
Vacating	1	....	....	....	....	1
Filling	....	....	1	....	....	1
Total	6	11	7	10	2	36
Grand total	86	92	56	54	43	331
Orders completed during the month:						
Minor	7	13	7	2	5	34
Sewer	1	3	1	....	1	6
Vacating	1	1	....	....	....	2
Filling	1	....	....	....	....	1
Total	10	17	8	2	6	43
Orders cancelled during the month:						
Minor	4	....	....	....	....	4
Sewer	....	1	....	....	....	1
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	4	1	....	....	....	5
Orders pending during the month:						
Minor	56	15	20	38	29	158
Sewer	11	49	10	7	2	79
Vacating	....	9	4	2	3	18
Filling	5	1	14	5	3	28
Total	72	74	48	52	37	283
Strong material plans approved:						
New buildings including additions and alterations	17	11	18	24	11	81
Permits for minor building construction:						
Approved	22	7	14	16	7	66
Disapproved	....	3	1	10	1	15
New buildings completed	12	9	7	4	4	36
Light and mixed material construction:						
Permits approved	....	....	30	19	44	93
Permits disapproved	....	....	4	14	12	30
Total number of building projects passed upon	51	30	74	87	79	321
Prosecutions:						
Convictions	1	....	....	....	....	1
Dismissals	....	....	1	....	....	1
Amount of fines	₱20	....	....	....	....	₱20
Plumbing permits issued	45	44	29	37	16	171
Plumbing projects completed	16	20	11	13	7	67
Premises connected to the Sanitary Sewer to March, 1924	1,712	2,888	1,099	586	427	6,712
Premises connected during April, 1924	5	7	1	2	3	18
Total	1,717	2,895	1,100	588	430	6,730

Intramuros includes Ermita and Malate.
Meisic includes Sta. Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Sta. Mesa.
Paco includes Pandacan and Sta. Ana.

Medical Lib.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV MAY, 1924 No. 5

In ourselves, we suffer for the sins we commit; in our communities, we suffer for the sins we permit.—TENNESSEE HEALTH DEPARTMENT.

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6. Miscellaneous.
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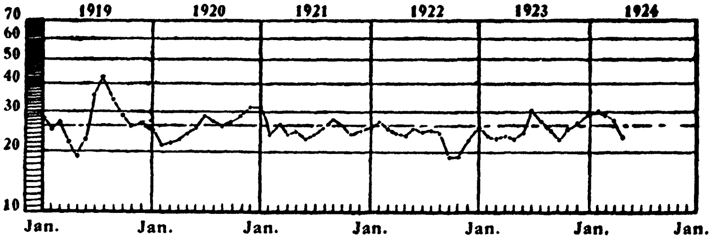
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



–.–.–. Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1924

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV MAY, 1924 No. 5

A PATHOLOGICAL SURVEY OF THE CAUSES OF DEATH IN LEPERS AT CULION

ELOY V. PINEDA

Assistant Pathologist, Culion Leper Colony, Philippine Health Service

(Abstract[1])

Since the establishment of the Culion Leper Colony in 1906, no serious autopsy work had been done until the medical work of the colony was increased to its present scope, when pathological work was given due consideration. Necropsies have been regularly performed on all cases of special interest and on those in which there was doubt as to diagnosis.

This report is based on 300 consecutive autopsies, the great majority of which were performed by the writer. Approximately equal numbers were from: (1) the Emergency Hospital, in which cases under anti-leprosy treatment are hospitalized when ill; (2) the General Hospital, in which cases not under anti-leprosy treatment are hospitalized; and (3) cases not in the hospital at the time of death.

During the months covered by this report, there was a total of 892 deaths in the colony. A few figures on the causes of death in the colony as a whole will be given to bring out certain facts, but the main purpose of this paper is to add what the data may do towards clearing up the real causes of death in leprosy. This subject has been investigated thoroughly, and general statements or incomplete statistics have been repeatedly cited without their accuracy being questioned. Clinical diagnosis is usually taken at its face value, which is but natural in view of the lack of definite data based on post-mortem work. On a review of the literature, it is found that completely contradictory statements are made by equally reputable authors.

---

[1] Paper read at the annual meeting of the Philippine Islands Medical Association, on December 19, 1923, and to be published in the *Journal* of the Association.

The principal causes of death in the 300 consecutive autopsies performed in this colony are given in the following table:

TABLE I.—*Causes of death in 300 autopsies*

Cause	Number	Percentage	Cause	Number	Percentage
Tuberculosis	72	24.0	Gangrene	7	2.3
Nephritis	49	16.3	Leprosy[1]	7	2.3
Broncho-pneumonia	28	9.3	Neoplasms	5	1.6
Dilatation, heart	23	7.6	Infected wounds	4	1.3
Malaria	17	5.6	Septicæmia	4	1.3
Endocarditis	15	5.0	Entero-colitis,	4	1.3
Amœbiasis	10	3.3	Beriberi	4	1.3
Lobar pneumonia	9	3.0	Other diseases	31	10.3
Undetermined	9	3.0			

[1] Abbreviated.

These figures are compared with those reported from other leprosaria by McCoy, Hillis, Harper, Rake, and Abraham. The detailed figures of these autors will not be given here, but the percentages for the more common causes of death as reported by them are set forth in Table II for comparison with the table above.

TABLE II.—*Percentages for the more common causes of death*

Writer	Tuberculosis	Nephritis	Septic Infection	Pneumonia	Leprosy	Total other than leprosy
McCoy	3.5	2.0	1.4	4	71	29
Hillis	17.0	22.5	(1)	(2)	38	62
Rake	30.0	32.0	(4)	(4)	(4)	(4)
Harper	27.0	11.6	20.1	1.9	9.1	90.9
Pineda	24.0	16.3	18.1	12.3	2.3	97.7

[1] Included with nephritis. [2] Included with p. t. b. [3] Reported as marasmus. [4] Not given.

The dissimilarity of these figures, notably as regards the diagnosis of leprosy, is impressive. The highest figure is that of McCoy who attributes 71 per cent to leprosy. The lowest is mine with only 2.3 per cent. Such variability arouses doubt that autopsies were done, though it is true that conditions vary greatly in different regions; and certain people may be more susceptible than others to the direct ravages of the disease. A possibility that is to be considered is that there may be different strains of *B, lepræ,* some perhaps more virulent than others.

TUBERCULOSIS

This disease carries off the largest number of lepers at Culion, there being practically one-fourth of all autopsied cases and nearly one-half of all deaths in the colony during the same period. Comparable figures on deaths for 1922 and 1923 indicate that it is not on the increase, rather somewhat the contrary, though there is evidence that the ethyl-esters of chaulmoogra oil activate tuberculous foci in the lungs. In several autopsied cases, who were taking anti-leprosy treatment, the lesions in the lungs were so extensive and variegated as to suggest that the term "tuberculous gangrene" would be more appropriate.

In passing, it may be mentioned that some observers have asserted that the changes in the lungs are leprotic and not tuberculous in nature. We find here that the changes are tuberculous although *B. lepræ* was found in two instances in smears from lungs with concomitant tuberculosis.

Besides, as a cause of death, this infection has been found in 58 additional cases, making a total of 130 cases, or 43.3 per cent. There seems to be no essential difference between tuberculosis as seen among lepers and among the non-lepers except probably in the relative frequency of lymph-node involvement. It is not surprising that tuberculosis should be so common among lepers. Mental distress, overcrowding, deficient dietary, and lowered resistance cannot be unfavorable to this complication.

NEPHRITIS

This cause of death ranges second in my list, having caused 16.3 per cent of the deaths. In this series, some form of nephritis was found in nearly one-half of all the cases. Nephritis should not be considered as a true complication, but as a sequela of the disease. That the ethyl-esters of chaulmoogra oil are irritating to the kidneys has been brought out by the results of the urine examinations. Early in the treatment work, 30 per cent of all specimens examined were positive for albumen and 15 per cent showed casts. After about a year and a half of treatment in 1,120 specimens examined, 95 per cent were positive for some degree of albumen and 88 per cent showed casts.

CARDIOPATHIES

Cases of cardiac dilatation without valvular lesions, associated with slight chronic nephritis, have occurred with relative frequency.

Endocarditis and cardiac thrombosis also show an unusually high incidence in general autopsy work. This is to be expected in view of the actual increase of the portals of entry for infection.

LEPROSY

This disease has caused only seven deaths, or 2.3 per cent. It has been the experience at this colony that with increased care in diagnosis, leprosy as a cause of death has steadily and greatly diminished. The seven cases so diagnosed presented a rather stereotyped picture with emaciation, extensive skin manifestations, and leprotic changes in the viscera.

The figures presented differ markedly from those reported by McCoy in Hawaii in that leprosy is rarely and tuberculosis and nephritis frequently the cause of death, but they approach that given by Harper.

CONCLUSIONS

1. The inmates of the Culion Leper Colony seldom die from the direct effects of the disease. In but 2.3 per cent of the 300 autopsied cases could leprosy be assigned as the cause of death.
2. Tuberculosis is the most frequent cause of death among lepers at Culion, having been responsible for 24 per cent of the deaths in the autopsied cases and 42.7 per cent of the total deaths during the same period.
3. Nephritis is second in frequency. This disease caused death in 16.3 per cent of the cases autopsied. It should not be considered a true complication, but a sequela of leprosy.

RESOLUTION

Whereas it has been observed that the notification of cases of dangerous communicable diseases in general has been in these Islands apparently left in abeyance;

Whereas the adequate solution of many important public-health problems in so far as the control and prevention of these diseases, breeding constantly in our midst, are concerned, is in large measure dependent upon their complete and prompt notification and accurate diagnosis;

Whereas the index of the degree of civilization that a country has attained is estimated and valued by its sanitary progress, and this progress, in turn, is determined by the reduction of the morbidity and mortality rates of especially the so-called preventable diseases;

Whereas the activity of the medical profession does not only deal with the relief and cure of human sufferings, but also with their prevention and reduction, and its hearty coöperation at large with the health authorities is essential to give practical and positive results; and

Whereas the District Health Officers and Presidents of Sanitary Divisions in the provinces and municipalities, respectively, have been often handicapped in the compilation of their statistics because of the faulty notification of cases and the incorrect diagnosis of deaths; Now, therefore,

Be it resolved, That this Joint Annual Meeting of the Philippine Islands Medical Association and the Manila Medical Society, held in the City of Manila, unanimously and unconditionally approve any effort or system tending to have all cases of dangerous communicable diseases reported to the health authorities;

Be it further resolved, That a bill be drafted with regard to the compulsory notification of such cases (providing for such necessary disciplinary measures and penalties as may be proper for the violation thereof) by a committee appointed by the present chairman—such drafted legislation to be presented, for enactment, to the House of Representatives and the Senate in legislative session assembled during this period of sessions, thru their respective committees on Sanitation; and

Be it finally resolved. That the present chairman be authorized to furnish copies of this resolution to the President of the Senate, the Speaker of the House of Representatives, the Honorable the Secretary of Public Instruction, and His Excellency the Governor-General of the Philippine Islands.

Unanimously approved, December 19, 1923.

Submitted by

(Sgd.) R. G. PADUA

NUTRITION, A WOMAN'S TRUST

By SEVERINO LUNA-OROSA, M.D., *Philippine Health Service*

[Delivered before the National League of Filipino Women at the Club Filipino on February 17, 1924]

It is, indeed, a great honor to be asked to speak before such a distinguished audience as this, composed of our intellectual women. And I surely did hesitate in accepting the honor, for I am well aware that I cannot add to your knowledge and experience. Nevertheless, I accepted the privilege, with the belief that if I cannot impart anything new, I can at least provoke discussion of a topic which concerns all women; and I call the subject "Nutrition, a Woman's Trust."

We, as mothers, as nurses of our infants and children, as sisters and housewives, are given the full charge and control of the nation's nutrition. To us is wholly entrusted its management. Let us, therefore, pause for a moment to ponder the significance of this trust. Let us analyze the problem and find out if we are discharging this duty to our credit; for the state of nutrition of a people bespeaks of woman's efficiency or inefficiency as homekeepers; nay, it is a fair exponent of our culture as a people.

The degree of nutrition is a fair index to physical health, and is the corner-stone of either health or disease. As good nutrition is a sign of health, so is poor nutrition a precursor of illness. In fact, defective nutrition is responsible for an increased incidence of most diseases. More particularly is poor nutrition the cause of the high incidence of tuberculosis, a disease whose power is great only among the undernourished and consequently devitalized individuals.

The problem of nutrition, being thus a great contributory cause to many diseases and especially to tuberculosis, which is regarded as one of the three racial menaces, should not receive only scant but always our earnest attention.

Are we discharging this trust properly and performing our duty well as homekeepers? The answer is found in the degree of nutrition attained by our people. Are they well nourished and thus capable of resisting disease? Are our infants and children properly fed and nurtured? Unfortunately, our statistics show the bitter truth that our tuberculosis incidence is great, our morbidity rate is high, and our infant mortality is still alarming.

Can we not then shift the blame to our men, as our breadwinners, for not providing us with an adequate allowance for our needs? Yes, in part, for unemployment, idleness, and consequent failures on their part to provide the necessary needs of the family, means hardship and an unnecessary burden and handicap to our homekeepers. It means double work, worry, and care for them, consequent neglect of the children and ill health to the whole family. But, evidently, malnutrition exists among the rich and poor alike. Rich or abundant food is dangerous if not correctly used. In fact, overabundance of food is just as frequent a cause of disease as its lack or deficiency. Poverty alone, therefore, can not account for all cases of malnutrition.

Is it not logical, then, to presume as the more natural explanation that the main cause is the lack of an adequate knowledge of the science of nutrition, or the lack of its proper application on the part of our women? The remedy would then be obvious: a little more attention to the discharge of their duties on the part of our actual homekeepers, a better training in the art and science of nutrition of our future housewives, and an early and continued alimentary education of our children. It means more personal care and attention to our household duties in spite of servants and hired help.

This training and education should begin at home. Indeed, most of the principles and practices along this line are observed and learned there in a practical way, perhaps never to be forgotten. The home is the proper school where the mother and homekeeper is the teacher. It is here and nowhere else that alimentary habits are acquired and other nutritional practices are learned, to be the future norm when the turn comes. It is here where the first few years of life are entirely spent, those years that are most important in determining character and health. Herein applies the old adage, "As the twig is bent so is the tree inclined." Our actual homekeepers must, therefore, be doubly careful; for they are not only responsible for their children's nutrition, but are also laying the foundation-stone for the physical well-being of their children's children. As they perform their duty, so will their followers.

Whatever important part the home may play in the solution of this problem, the schools, clubs, and other social agencies can help much toward the education of our future housewives and the maintenance of the health of our people. The schools can supplement the home teaching by giving regular nutrition classes as well as by providing properly balanced school lunches, as is being done in other countries. Our alimentary education must begin early—in the cradle. It, certainly, should go alongside the academic education of our children. The good nutritional habits they will acquire while young will thus persist as the children advance in age. In this connection, let me offer a suggestion to our school authorities: that school lunches may be given in conjunction with the domestic science classes, and with the help of the school nurse and medical inspector of the school. There can be no better practical demonstrations than these school lunches to show and teach the caloric value of foods—the necessary food elements in their proper amounts to make up what is called a balanced diet, and the form necessary to attain proper nutrition and good health.

The schools are called upon not only to supplement the home lessons, but also to correct whatever wrong habits and ideas may have been unfortunately acquired and formed. Bismarck is quoted to have said, "What you wish in the nation, you must put into the schools."

Then the training and education is to be taken up by social workers for those who have left school and are past its reach. It is for them that social agencies have introduced such welfare measures as mother-craft schools, mothers' meetings, schools for home-making, baby week, baby contests, day nurseries. And while the home and the school endeavor to teach personal responsibility for one's own health and nutrition, these social workers strive to enhance one's civic responsibility for the health and nutrition of the community.

Thus is completed the round of education for our future homekeepers, to prepare them for a better compliance with their trust.

As the power of a nation depends upon its people and the strength of a people is dependent upon its health and nutrition, we can well realize how important the trust is. It is, certainly, expected of us to fulfill it properly. Indeed, it is but our duty and responsibility to live up to this expectation so that we may have better homes, healthier babies and children, ideal parents, and a stronger nation.

HEALTH COUNSELS TO FARM LABORERS[1]

By Teofilo Corpus
Medical Inspector, Philippine Health Service

The life of a farmer is dignified by his work. Besides leading a peaceful life, he plays a very important rôle for the Philippine cause for progress and wealth.

In the barrio, the living condition of the farmer is different from that in Manila. In the city, doctors and medicines are plentiful. Foods, clean water, and everything needed is obtainable at any time. In the farmer's barrio, all these things are scarce. Everything is apt against their health and well-being. The supply of pure drinking water is doubtful.

It must be realized that a healthy body is a great wealth by itself in this world. A healthy farmer can easily and fearlessly tackle a difficult task; he is able to perform more and greater work, and by far can expect to receive more compensation from it than a sickly individual should. In order to keep his good health he should have varied foods at all times. He should not fail to take his regular meals when meal time comes; and when he returns home from work in the field for rest, he will have to change his wet dirty working attire and wear dried clean clothing in order to keep his body away from disease.

As a caution to the farmer, he has to provide himself with the necessary food and drinking-water supply before going to work. The practice of the farmer in making a temporary well in the field where to get his water for drinking purposes for the time being may then be avoided; and thus he may be free from cholera, dysentery, typhoid fever, or other disease that are contracted from unsafe water. He should always bring with him artesian-well or boiled water placed in any suitable container, even in a clean bamboo tube.

Of all occupations of this country, that of farming suffers one of the heaviest mortality. Many farmers lose their lives from sickness by carelessness or ignorance. After recovering from a slight fever, say, from influenza, they usually return to work. This act very often causes severe relapses and death almost always ensues. The danger of relapses and the unnecessary loss of lives may be avoided by abstaining from work until the sick person gets completely cured, even from a slight sickness only.

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[1] Abstract of an address given to represent the Director of Health before the Convention of the Corporation of Tenants and Farm Laborers, held at the Marble Hall, Manila, on May 2, 1924.

Many farmers are likely to suffer from malaria. This disease reduces their vitality and earning capacity. Malaria is caused by the bite of mosquitoes, which breed in insanitary homes and surroundings. In order to get rid of this sickness, the canals nearby should be drained; the water-containers either for drinking or culinary purposes should be well covered; the cesspool and low places filled; and anything that may hold water in and about the houses should be thrown away.

The farmers are also liable to have intestinal parasites, as the round worm and hookworm, in their system. These parasites cause sickness; and in order to get rid of them, the human waste-matter should be buried under the ground or the Antipolo system adopted. The washing of hands immediately before meals is therefore always a good practice. Likewise, animals in the home transmit sickness; and, therefore, pigs, chickens, cats, dogs, goats, and carabaos should not be allowed to stay in the house; they should be sheltered away from it.

These are only a few of the diseases that mostly affect the farmers, and infection can be avoided if the instructions of the Philippine Health Service are closely obeyed.

In order to cope with the emergency cases at any time, a dispensary owned by the association of neighboring farmers in each locality seems necessary. The Philippine Health Service has under project four classes of dispensaries, the cost of which ranges from ₱1,800 to ₱3,200. The construction includes a room for treatment and a room each for male and female emergency patients, besides toilet facilities. The farmers buy their own medicines, although the province where this dispensary is situated may financially help in this matter. The health service furnishes its doctors, nurses, and sanitary inspectors free whenever their attendance is needed.

In case the society of farmers does not have any available fund with which to build a dispensary, a barrio where there are from 2,000 to 5,000 farmers may have a ready "medicine chest." This chest includes more than thirty different kinds of medicines for emergency use. The list has been prepared by the Philippine Health Service and its estimated cost is ₱60.

It may be bought from any reliable drug store. The chest should always be entrusted to the hands of medical men only. As stated above, the province may help in the purchase of the medicines and the Health Service can furnish its doctors, nurses, and sanitary inspectors free.

Your problem, therefore, of making yourselves healthy is much simpler than it appears to be. What you immediately need is personal decision and coöperation.

REMARKS ON CULION LEPER COLONY

By Dr. A. R. J. Douglas

Rangoon, Burmah

Armed with a letter from the Philippine Health Service authorizing my visit to Culion and asking the authorities there to facilitate my inquires, I have spent nearly a forthnight at the Leper Colony. During this time I have had frequent conversations with Dr. Jose Avellana Basa, chief of the colony, Doctor Wade, the chief pathologist, and Doctor Lara, the chief physician, to all of whom I am greatly indebted for the trouble they have taken in placing all available literature and figures at my disposal and in helping me to arrive at accurate conclusions with regard to the questions of segregation as applied to Culion and the modern treatment of leprosy as carried out there. As I have lived with the medical staff there I have had also unusual opportunities for ascertaining their views which have been very helpful to me. The medical members of the staff have spared no pains to show me their cases and to discuss the varying conditions shown by the patients. I would especially mention Doctor Nicolas who, among other things, showed me the children. Last but not least I mention the chemical department under Doctor Perkins, the chief chemist, who very kindly showed me the work of manufacturing the medicines in the factory and explained the general lines along which he was searching for new and improved remedies.

I do not think, outside of those officials directly concerned, that the magnitude and value of the work being carried out at Culion is realized. There is nothing like it in the world either in India or elsewhere as far as I am aware. Nearly 4,000 patients are undergoing the different forms of present modern injection treatment. They are taking this treatment voluntarily and hopefully and, speaking very roughly, one in three shows before long definite signs of improvement not merely visible to the doctors but sufficiently marked to be seen by the patients themselves. This work on the present scale has been going on now for about two years, but before definite conclusions can be drawn another two or three years will be required and, in my opinion, any alteration of policy which would in any way limit or check this work would be a most grievous misfortune not only for the lepers in the Philippines but for those unfortunate people all over the world.

The work being done and the self-sacrificing expenditure will stand as a moment to the Philippines for all time in the history of medicine.

I understand that there is a considerable body of opinion in favor of reducing the number of lepers at Culion and sending all early cases of leprosy to local treatment stations at Cebu and other centers in the Islands. The idea being that if patients can be treated at centers near their homes they will come forward voluntarily in greater numbers and there will be fewer cases of concealment of the diseases owing to horror of going to Culion. Theoretically I agree that the modern treatment can possibly be carried out more accurately in such treatment stations but I am strongly of opinion that the results actually obtained would in no way correspond to those theoretically expected.

The work in different institutions hundreds of miles apart must vary and the statistics would be open to so many outside factors that the scientific value of the work not only would be much less, but the whole system of segregation, and the modern treatment of leprosy, might crumble away like a house of cards.

In conclusion, I may repeat that I am strongly of opinion that the present system which has gone on for 17 years should be allowed to continue for another three years and then a stage will be reached when work on different lines can be started if considered desirable. The whole question of segregation is greatly changed by the modern treatment and if this is successful it may cease to be the apple of discord.

MISCELLANEOUS

DOCTOR SIMPAO RETURNED

Senior Medical Inspector Felino Simpao, who has been appointed as representative of the Philippine Health Service in the trip of provincial Governors in the south, returned on April 30, 1924, with the party.

NEW ASSIGNMENTS

Dr. Andres Hernandez, president, First Sanitary Division of Camarines Sur, has been appointed acting district health officer of this province, effective March 25, 1924.

Nurse Rosario Ramos, of the Public Health Nursing of the Philippine Health Service, has been directed to report to the Camp Surgeon, Camp Stotsenberg, Pampanga, for duty with the civilian community. She will return to Manila after two weeks.

BUSTILLOS ARTESIAN WELL MAY NOW BE USED SAFELY

The artesian well at Calle Bustillos, Sampaloc, which has been ordered closed for some time due to its contaminated water, has been opened for the public beginning today. The water of this well is now safe for drinking purposes.

DOCTOR LAYGO RETURNED

Acting Assistant Chief Pacifico Laygo, of the Division of Provincial Sanitation of the Philippine Health Service, returned today in company with the Governor-General.

VACANCIES FOR NURSES

There are two female vacancies for nurses in Camarines Norte at ₱90 per month. Registered nurses are needed, and those who either speak Tagalo or Bicol are preferred. Likewise, there are two vacancies in Albay at ₱75 per month. A registered nurse who speaks Bicol is preferred.

The Philippine Health Service desires to inform the ice-cream vendors that, in view of their failure to comply with the latest regulations promulgated by the Service that they wear clean white apron when they go about selling their product, it has given instructions to sanitary inspectors that beginning Thursday, May 8, 1924, all persons caught violating the above-mentioned regulations will have their sanitary licenses canceled and that any quantity of ice cream for sale found in their possession will be confiscated.

UNIDADES DE SOCORRO PARA ATENDER CUALQUIER DESASTRE

1. Por la presente se ordena la organización de una Unidad de Socorro en cada Estación Sanitaria de la Ciudad de Manila, para atender cualquier desastre público.

2. Cada Unidad de Socorro estará constituída por el siguiente personal:

(*a*) El médico encargado de la Estación Sanitaria correspondiente.
(*b*) Dos enfermeras.
(*c*) Cuatro inspectores sanitarios.

3. El material de cada Unidad de Socorro consistirá en lo siguiente:

(*a*) Una tolda de campaña.
(*b*) Cuatro recipientes para agua de beber.
(*c*) Seis latas para recogidas de basuras.
(*d*) Dos letrinas portátiles de cuatro cubetas cada uno.
(*e*) Dos mesas con tapanco para los recipientes de agua.
(*f*) Dos botiquines tipo (Nos. 1 y 2) para los auxilios necesarios.
(*g*) Una mesa-escritorio y dos sillas.
(*h*) Cuatro faroles de campo.
(*i*) Dos bombas de desinfección.
(*j*) Dos baldes de desinfección.
(*k*) Dos filtros de campaña.

4. El personal de enfermeras será asignado permanentemente por el jefe de la Oficina de Inspección General.

5. El material estará siempre listo en cada una de las estaciones sanitarias excepto el marcado con las letras *a*, *f*, y *k* que guardaran en la Oficina de Propiedades.

6. Tan pronto se declare un incendio u otro desastre cualquiera dentro de la zona abarcada por la División Metropolitana del Servicio, el personal de la Unidad de Socorro dentro de cuyos límites se haya declarado el desastre, acudirá tan pronto como sea necesario a montar el servicio sanitario de la zona devastada.

7. El oficial encargado de la estación correspondiente pedirá por teléfono a la oficina central el automóvil No. 39 u otro cualquiera que estuviere disponible así como el material *a*, *f* y *k* si fuera necesario en cuyo automóvil embarcará el material de su Unidad de Socorro para conducirlo a la zona del desastre.

8. El jefe de la Unidad de Socorro a quien corresponde atender el desastre será el responsable de la organización y mantenimiento sanitario de la zona devastada y el mismo en persona o su personal subordinado atenderá cualquier accidente o caso de enfermedad que se registre entre la población afectada por el desastre.

9. En caso de que el desastre tenga grandes proporciones el jefe de la División Metropolitana del Servicio podrá disponer que acudan una o más Unidades de Socorro al lugar del desastre.

10. En caso de desastre en los municipios de Malabón, Navotas, Caloocan, San Juan del Monte, San Felipe Neri, San Pedro Makati, Pasay y Parañaque, el presidente de la división sanitaria correspondiente con todo el personal sanitario disponible acudirá al lugar del desastre poniéndose a las órdenes del oficial jefe de la Unidad de Socorro correspondiente.

11. En caso de que se registren varios desastres a la vez en diferentes distritos del territorio abarcado por la División Metropolitana, cada Unidad del Socorro acudirá al desastre que la corresponda.

12. El servicio sanitario de socorro se montará en cualquier día y hora que se considere necesario sin tener en consideración días festivos u horas fuera de las reglamentarias de oficina.

13. La Oficina de Propiedades tendrá en todo tiempo dispuestos y completos los botiquines Nos. 1 y 2 para ser servidos a la Unidad de Socorro que lo requiera.

MALARIA CAMPAIGN IN PAMPANGA

Sanitary Engineer Tiedeman, of the Rockefeller Foundation who is conducting malaria campaign in Del Carmen, Pampanga, in coöperation with the Philippine Health Service, reports that for the month of April, efforts have been directed principally toward work in preparation for the mosquito control demonstrations. He also reports that the district health officer of Pampanga arranged a talk on malaria by Doctor Layug at Floridablanca on April 29th and another by Doctor Valdez and himself at Porac on the 30th. At the latter place, there were two or three hundred people out.

Mr. Tiedeman states that a brief malaria survey is to be made among the populations of Floridablanca and Porac before control work begins. This is well under way at Floridablanca and should be completed within a week at which time the party will start work in Porac.

Experiments in the practical use of oil soaked sawdust and Paris green as larvacides against stream breeding in these two places are under way and present indications are that Paris green will prove very cheap and effective. A mechanical device for spreading Paris green has been developed, and this is working successfully.

Mr. Tiedeman also states that preparations have also been made for the training course in malaria control work and it is planned to have the men report for work on May 15th.

CONFERENCE FOR UNLICENSED MIDWIVES

The Director of Health issues circulars to the fact that the conferences or instructions for the unlicensed midwives, or "hilot," should be placed as a proper duty under the charge of nurses of the puericulture centers. For this reason, the presidents of the Sanitary Divisions have been directed to discontinue the practice of delivering lectures or giving instructions to the unlicensed midwives, and turn over this task to the nurses of the puericulture centers. However, in places where there is no organized puericulture center and there is no nurse available, the presidents of the Sanitary Divisions may conduct this work at least once a month.

DOCTOR AGUILAR IN MANILA

Medical Inspector Eusebio Aguilar, district health officer of the Province of Zamboanga and supervising surgeon of the Zamboanga General Hospital, has recently arrived at Manila on official business. He made a flying trip to his home town at Botolan, Zambales, yesterday to attend the funeral of his younger brother, who died some time ago. Doctor Aguilar will be back to Manila next week to take the promotional examination for senior medical inspector examination to be held on May 22 to 24, 1924.

SANTA ANA ARTESIAN WELL OPEN

It is hereby announced to the public that Santa Ana artesian well located near the market has been open to the public beginning today (May 9). The water of this well is now safe for drinking purposes.

The Paco artesian well is now being repaired, and it is hoped that the same will be open soon.

LEPER AMBULANCE SENT TO LAGUNA

Chauffeur Esteban Hernandez, mechanic Teodoro Garcia, and litter bearer Basilio Arenas have been directed to proceed with the ambulance to Santa Cruz, Laguna, for the purpose of collecting lepers to be brought to Manila.

PHYSICAL EXAMINATION OF SCHOOL CHILDREN

Chief of Office of General Inspection Villafranca, of the Philippine Health Service, reports that up to the present about 500 children at the School Clinics North of the Pasig River have already been physically examined by Drs. Luna-Orosa and Laserna. The work is being continued.

ROCKEFELLER PENSIONADO LARA

Doctor Lara, of the Philippine Health Service, and pensionado of the Rockefeller Foundation, reports that he has recently finished the required work for the degree of doctor of public health. He is now doing some investigative work on epidemiology at the School of Hygiene and Public Health of Johns Hopkins University.

PACO ARTESIAN WELL OPEN

The Paco artesian well has been reopened for the use of the public beginning today. The water of this well is now safe for drinking purposes. The repairs of the Quiapo artesian well at Miranda Street have been started and it will probably be complied within two or three days.

MILK VENDORS REQUESTED TO COMPLY WITH REGULATIONS

The Philippine Health Service hereby publicly requests all milk vendors to comply with the regulations of sterilizing milk in any of the health stations of the City of Manila. It has been observed that the milk vendors fail to take their milk to the health stations to be sterilized, and the Director of Health has issued strict orders to confiscate any amount of milk which is being sold without the corresponding health certificate.

VISITING BOAT TO CULION

A communication from Mr. Teodoro R. Yangco has been received at the headquarters of the Philippine Health Service to the fact that the steamer *Negros* which will take visitors to the Culion Leper Colony is still on the dock under repairs. However, Mr. Yangco has made arrangements to have steamer *Zambales* ready to make the trip to Culion on May 27th. This date of sailing will be definite unless some unexpected circumstances will arise.

Those who wish to avail of this opportunity will please go to the central office of the Philippine Health Service, Santa Potenciana Building, on or about May 24th to get their passes.

NEGATIVE LEPERS SENT TO CULION

Steamship *Basilan* arrived on May 12, 1924, bringing 20 negative lepers from Culion Leper Colony to Cebu Leprosarium for quarantine and parole.

HIGH-SCHOOL GRADUATES NEEDED

High-school graduates are wanted for anti-malaria work at Pampanga under the Rockefeller Foundation. The compensation is ₱60 a month. Those who have the qualifications will please see the executive officer of the Philippine Health Service headquarters before May 17, 1924.

TO ANTIPOLO VISITORS. ATTENTION!

You that read this and go to Antipolo to enjoy the climate, or for pleasure and rest, it is also your opportunity to have your stools examined in the Emergency Hospital of Antipolo.

From such an examination of your stools, your family or you will know whether have tænis, hookworm, and roundworms in your system. This could be done by bringing a little amount of your stools in a wide mouthed-bottle with your name, age, sex, and address in Antipolo and permanent address to the Emergency Hospital of the municipality, where you will be treated of these intestinal parasites free of charge.

SENIOR MEDICAL INSPECTOR PACIFICO LAYGO ALSO APPOINTED DISTRICT INSPECTOR

Senior Medical Inspector Pacifico Laygo, in addition to his other duties as acting assistant chief of the Division of Provincial Sanitation, has also been assigned as district inspector, effective May 9, 1924.

DOCTOR LARA GRANTED TWO-YEAR FELLOWSHIP BY THE MAYO FOUNDATION

Dr. Casimiro B. Lara, chief physician of the Culion Leper Colony, has been granted a two-year fellowship by the Mayo Foundation. This fellowship has been secured thru the good offices of Colonel Joseph F. Siler, Chief, Army Medical Research Board, Manila. Doctor Lara will leave for America about the end of next July.

The Culion Leper Colony needs a broadly trained medical internist who is keen in diagnosis. This is important in order that sound conclusions may be drawn as to the value of methods of leprosy treatment and the influence of intercurrent and complicating diseases from the viewpoint of treatment.

Doctor Lara will especialize on diagnostic methods so that when he returns his work will be of great value for the welfare of the colony.

ASSIGNMENTS

Dr. Eugenio Hernando, chief of the Division of Metropolitan Sanitation, and Mr. Manuel Mañosa, chief of the Division of Sanitary Engineering, have been directed to go to Baguio to make a study of the water supply thereat in connection with previous surveys already made and render a report to the Director of Health as to their findings. District Inspector Gabriel Intengan will take temporary charge of the Division of Metropolitan Sanitation and Assistant Sanitary Engineer Joaquin Lopez of the Division of Engineering until the regular incumbents return to duty.

Senior Surgeon Pedro Joven has been detailed at Antipolo, Rizal, in connection with the general sanitation thereat effective May 19, 1924.

DIRECTOR OF HEALTH LEFT FOR BAGUIO

The Director of Health left yesterday for Baguio on official business.

DOCTOR MANALANG IN MANILA

Dr. Cristobal Manalang, bacteriologist of the Division of Mindanao and Sulu of the Philippine Health Service, arrived at Manila on May 14, 1924.

Doctor Manalang will conduct hookworm campaign in Luzon starting in the municipality of Antipolo, Rizal.

DOCTOR FERRER IN MANILA

Doctor Ferrer is in Manila. He will soon proceed to his new station at Dumaguete, Oriental Negros, to assume the duty as district health officer of the province.

SANITARY ENGINEER SUBMITS HIS MONTHLY REPORT

Mr. Mañosa, chief of the Division of Sanitary Engineering of the Philippine Health Service, reports that for the month of April, 81 strong material plans, 66 permits for minor building construction, and 93 light and mixed material construction were approved.

HEALTH OFFICERS IN MANILA

Dr. Alfonso Concepcion, chief of the Tarlac Provincial Hospital, Tarlac, Tarlac, is here in Manila on official business. He will arrange matters with regard to the hospital under his charge.

Senior Medical Inspector Victorino de los Santos is in Manila enjoying his accrued leave of absence.

DISTRICT HEALTH OFFICERS IN MANILA

Drs. Eugenio de Jesus, Alfonso Raquel, Eufemio Jara, Anatolio Dasmariñas, Gregorio Roque, Eusebio Aguilar, and Jose Vidal, district health officers of Davao, Cavite, Tayabas, Occidental Negros, Cotabato, Zamboanga, and Leyte, respectively, are in Manila to take the promotional examination for senior medical inspector to be held on May 22–24, 1924.

MONTHLY REPORT ON THE DISTRIBUTION OF ASSORTED VACCINES AND SERA

The property office of the Philippine Health Service reports that for the month of April, the following assorted vaccines and sera were distributed: Antidiphtheritic serum, 125,000 units; antitetanic serum, 94,000 units; anti-dysenteric serum, 80 ampoules; cholera vaccine, 10,260 c. c.; mixed cholera-typhoid vaccine, 40,250 c. c.; typhoid vaccine, 32,030 c. c.; fresh vaccine virus, 310,200 units; and dried vaccine virus, 39,800 units. These costs ₱15,109.

PLAZA MIRANDA WELL OPEN

The artesian well at Plaza Miranda, Quiapo, is opened to the public beginning today. The water of this artesian well may now be safely used for drinking purposes.

ASSIGNMENTS

Miss Tomasa Goduco, assistant chief nurse, San Lazaro Hospital, has been directed to go to Baguio to reorganize the Training School for Nurses in the Baguio Hospital.

Senior Medical Inspector Lopez-Rizal, Medical Inspector Catalino Gavino, and Surgeon Bienvenido Caro have been appointed to form the committee on physical examinations of applicants for entrance to, and promotional examination in, the Philippine Health Service.

PHYSICAL EXAMINATIONS OF SCHOOL CHILDREN

The primary and intermediate pupils attending schools south of the Pasig River under the charge of Senior Medical Inspector Miriam E. Griffin will have their physical examinations at the Philippine Health Service headquarters, Santa Pontenciana Building, Intramuros, and those attending schools north of Pasig River will have the physical examinations at Meisic Health Station under the charge of Senior Surgeon Severina Luna-Orosa. This will be from 10 to 11 a. m. and from 2 to 3 p. m. every day, except Saturdays and holidays.

Since May 5 about 1,200 pupils have already had their physical examinations in these two stations.

BLUMENTRITT ARTESIAN WELL WILL BE OPENED TO-MORROW

Blumentritt artesian well, Tondo, will be opened to the public to-morrow (May 22, 1924). The water from this artesian well may now be safely used for drinking purposes.

ASSIGNMENTS

Dr. Perpetuo Gutierrez, assistant surgeon of the Philippine Health Service, has been directed to proceed to Virac, Catanduanes, to institute anti-yaws campaign there. He will instruct the health personnel with regard to the work and will render a complete report upon his return. The district health officer of Albay and the health personnel at Virac have been directed to coöperate with Doctor Gutierrez in this work.

Dr. Braulio de Castro, assistant district health officer of the twenty-first Health District, Tayabas, has been designated as acting district health officer of the province during the absence of Medical Inspector Eufemio Jara.

Dr. Exequiel Castillo, president, fourth Sanitary Division of Batangas, has been designated acting district health officer of the province during the absence of Senior Medical Inspector Manuel Ma. Aycardo.

DIRECTOR OF HEALTH AND OTHER HEALTH OFFICERS BACK

The Director of Health Dr. Vicente de Jesus, chief of the Division of Metropolitan Sanitation Eugenio Hernando, chief of Sanitary Engineer Manuel Mañosa and chief, Office of Records and Finance Mamerto Tianco returned to Manila on May 23 from Baguio after discharging official matters.

DOCTOR PADUA ON VACATION

Assistant Chief of the Division of Communicable Diseases Dr. Regino G. Padua will take a short vacation for nine days beginning May 25, in his home town at San Juan, La Union.

DOCTOR BANTUG ON SHORT VACATION

Doctor Bantug, acting executive officer of the Philippine Health Service, left yesterday for his home town, San Isidro, Nueva Ecija, for a short vacation.

DOCTOR SIMPAO RETURNED

Senior Medical Inspector Felino Simpao has returned from an inspection trip of provincial governors where he was a representative of the Philippine Health Service.

DISTRICT INSPECTOR INTENGAN FOR OBANDO

District Inspector Intengan of the Philippine Health Service left yesterday May 26, 1924, for Obando to inspect cigar factories there.

STEAMSHIP *ZAMBALES* LEAVES FOR CULION

Steamship *Zambales*, Mr. Teodoro Yangco's boat, is leaving definitely today at 2 p. m. (May 27, 1924) to take more than 100 visitors to Culion Leper Colony. Yangco's pier is the starting point.

NEW ASSIGNMENTS

Senior Surgeon Elias Domingo, of the Philippine Health Service, has been assigned as acting chief of San Lazaro Hospital during the absence of Medical Inspector Catalino Gavino.

Mr. Basa has been assigned as acting district health officer of Zambales during the absence of Dr. Jose Castillo, the regular incumbent.

Senior Medical Inspector Manuel Llora, medical officer of Health Station No. 4, has been designated to take charge of Health Station No. 2 and at the same time supervising health officer of Health Station No. 4, effective June 1, 1924.

Dr. Francisco Castañeda has been designated to temporarily take charge of Health Station No. 4.

Surgeon Bienvenido Caro of the Philippine Health Service has been directed to proceed to Naga, Camarines Sur, to assume the duties of the district health officer thereat, relieving Dr. Andres T. Hernandez who has been directed to resume his former duty as president of the Sanitary Division of Naga.

Nurse Emilia Rivera, of the Philippine Health Service, has been directed to proceed to report to Camp Surgeon, Camp Stotsenburg, Pampanga, for duty with the civilian community.

Assistant Surgeon Hermenegildo Serrano, of the Philippine Health Service, has been assigned to work in Health Station No. 4, Sampaloc, under the temporary charge of Dr. Francisco Castañeda.

HEALTH OFFICERS RETURNED TO THEIR RESPECTIVE STATIONS

Medical Inspector Eusebio Aguilar, district health officer and supervising surgeon of Zamboanga and Zamboanga General Hospital, respectively, left on the steamer *Aki Maru* on May 29, 1924, for Zamboanga, arriving thereat in the time to open the School of Nursing in said city.

Dr. Anatolio Dasmariñas, district health officer of Occidental Negros, returned to his station on May 28, 1924.

COURSE FOR SANITARY INSPECTORS WILL OPEN ON JUNE 15

The course for sanitary inspector under the charge of the Philippine Health Service will be opened on June 15, 1924. Only those already employed as assistant sanitary inspectors in the Philippine Health Service will be admitted this year. Many district health officers have already submitted names of assistant sanitary inspectors in their respective districts who will take the course. Those who have not yet submitted their names are requested to do so as the date of opening of the course is now nearing.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of May, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health district—	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, MAY, 1924

Date	Pressure (mean)[1]	Temperature						
		In shade					Underground	
							0.50 m	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	757.75	29.4	36.8	7	23.7	6	30.7	31.1
11-20	58.59	29.2	36.8	19	22.5	17	30.9	31.5
21-31	57.71	28.1	35.0	22	23.2	27	31.1	31.4

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	66.7	73.0	5	60.3	10
11-20	64.2	75.6	20	58.4	16
21-31	80.3	89.4	30	73.0	22

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer [2] (open air)		
		Velocity					
	Prevailing direction	Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SE quad.	1,899.5	243.0	9, 10	69.8	8.0	8, 10
11-20	SE	2,138.0	267.0	16	78.1	9.7	14
21-31	SW quad.	2,092.5	248.0	26	45.4	6.6	23

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	86 10	10 10	1	.0	....
11-20	80 00	9 45	6, 8	3.2	2
21-31	53 10	8 40	22	170.8	7

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	6	9	33.83
Filipinos	446	458	904	37.80
Spaniards	5	4	9	54.24
Other Europeans	5	2	7	73.25
Chinese	26	18	44	29.03
All others	5	....	5	26.95
Total and average	490	488	978	37.41

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	87	95	182	7	6	13	195	60.66
No. 2, Meisic	85	78	163	2	4	6	169	18.87
No. 4, Sampaloc	94	92	186	6	8	14	200	47.14
No. 5, Tondo	111	117	228	10	9	19	247	35.64
No. 6, Paco	80	79	159	8	......	8	167	59.66
Total	457	461	918	33	27	60	978	37.41

Number of births attended by physicians, living, 250: Stillbirths 22
Number of births attended by midwife, living, 96: Stillbirths 1
Number of births attended by family, living, 632: Stillbirths 14

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	3	1	4	15.04
Filipinos	339	263	602	25.17
Spaniards	5	1	6	36.16
Other Europeans	2	....	2	20.93
Chinese	19	4	23	15.18
All others	2	1	3	16.17
Total and average	370	270	640	24.48

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	116	87
Divorced	....	....
Widowed	38	55
Single	276	170
Condition not stated	3	1
Total	433	313
Grand total	746	

Stillbirths	36
Number of death with medical attendance	397
Number of death without medical attendance	349

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	31	16	1	....	48
30 days to under 1 year	71	40	14	6	131
1 year to under 2 years	39	30	4	1	74
2 years to 4 years	32	21	2	....	55
5 years to 9 years	8	15	3	....	26
10 years to 14 years	5	5	....	1	11
15 years to 19 years	16	16	3	4	39
20 years to 29 years	36	26	11	7	80
30 years to 39 years	26	18	10	9	63
40 years to 49 years	28	22	5	5	60
50 years to 59 years	30	18	3	4	55
60 years to 69 years	25	16	4	1	46
70 years to 79 years	12	10	1	1	24
80 years to 89 years	6	11	1	3	21
90 years to 99 years	5	4	....	....	9
100 years and over	....	2	....	....	2
Age not stated	....	....	....	....	....
Total	370	270	62	42	744

One male and one female Filipino, of unknown ages, permanent residence unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts—	Deaths	Annual death rate per 1,000
No. 1, Intramuros	142	44.18
No. 2, Meisic	111	12.40
No. 4, Sampaloc	108	25.45
No. 5, Tondo	315	45.45
No. 6, Paco	70	25.01
Total	746	28.54

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			12	14	1				1				28
4. Malaria			5	5									10
6. Measles			1	1									2
8. Whooping cough				1									1
10. Influenza			3	2									5
14. Dysentery	1		6										7
17. Leprosy			2	1									3
18. Erysipelas			3	1									4
20. Purulent infection and septicæmia			1										1
23. Rabies			1										1
24. Tetanus			4	1									5
27. Beriberi		1	1	2									4
27a. Beriberi, infantile			19	13									32
28. Tuberculosis of the lungs			65	53					8	1			127
29. Acute miliary tuberculosis				1									1
30. Tuberculous meningitis			4	3						1			8
31. Abdominal tuberculosis			1	1									2
32. Pott's disease				1									1
34. Tuberculosis of other organs			3	1									4
35. Disseminated tuberculosis			3										3
36. Rickets			2										2
37. Syphilis			1										1
39. Cancer and other malignant tumors of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver	1		1										2
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	2									3
49. Scurvy				1									1
50. Diabetes			1	1									2
54. Anæmia, chlorosis			1			1							2
56. Alcoholism (acute or chronic)							1						1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			2	1									3
61. Simple meningitis:													
(1). Simple meningitis			12	4									16
(2). Cerebro-spinal meningitis (undefined)			1	3									4

63. Other diseases of the spinal cord					1								1
64. Cerebral hæmorrhage, apoplexy			4	9					1				14
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			2	1									3
71. Convulsions of infants (under 5 years of age)			3	1									4
74. Other diseases of the nervous system	1		1										2
III. Diseases of the circulatory system													
78. Acute endocarditis			1										1
79. Organic diseases of the heart			8	4	1		1		1				15
80. Angina pectoris					1								1
82. Embolism and thrombosis				1									1
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			19	15						1			35
90. Chronic bronchitis			8	6					1				15
91. Broncho-pneumonia			41	34									75
92. Pneumonia			11	6							1		18
93. Pleurisy			1										1
94. Pulmonary congestion, pulmonary apoplexy				1									1
96. Asthma			1	2									3
V. Diseases of the digestive system													
102. Ulcer of the stomach			1										1
103. Other diseases of the stomach (cancer excepted)				1	1								2
104. Diarrhœa and enteritis (under 2 years)			7	4									11
105. Diarrhœa and enteritis (2 years and over)			3	2									5
107. Intestinal parasites			1	1									2
108. Appendicitis and typhlitis			2	1									3
109. Hernias, intestinal obstructions			1	2									3
110. Other diseases of the intestines			1										1
113. Cirrhosis of the liver			1						1				2
114. Biliary calculi			1										1
117. Simple peritonitis (nonpuerperal)			2	2									4
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			3	5					1				9
120. Bright's disease			10	8					2				20
123. Calculi of the urinary passages			2										2
VII. The puerperal state													
134. Accident of pregnancy				3									3
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				2									2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VIII. Diseases of the skin and of the cellular tissue													
143. Furuncle	....	....	1	....	....	....	....	....	....	....	....	....	1
144. Acute abscess	....	....	1	....	....	....	....	....	....	....	....	....	1
145. Other diseases of the skin and annexa	....	....	....	1	....	....	....	....	....	....	....	....	1
X. Malformations.													
150. Congenital malformations (stillbirths not included):													
(3). Other congenital malformations	....	....	....	1	....	....	....	....	....	....	....	....	1
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(1). Premature birth (not stillborn)	....	....	4	1	....	....	....	....	....	....	....	....	5
(2). Congenital debility	....	....	23	10	....	....	....	....	1	1	....	1	36
152. Other diseases peculiar to early infancy:													
(1). Injuries at birth (not stillborn)	....	....	2	....	....	....	....	....	....	....	....	....	2
XII. Old age													
154. Senility	....	....	9	18	....	....	....	....	....	....	....	....	27
XIII. Affections caused by external causes													
155. Suicide by poison	....	....	....	....	....	....	....	....	1	....	....	....	1
157. Suicide by hanging or strangulation	....	....	....	....	....	....	....	....	....	....	1	....	1
167. Burns (conflagration excepted)	....	....	....	2	....	....	....	....	....	....	....	....	2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	....	....	2	....	....	....	....	....	....	....	....	....	2
182. Homicide by firearms	....	....	....	....	....	....	....	....	1	....	....	....	1
183. Homicide by cutting or piercing instruments	....	....	2	....	....	....	....	....	....	....	....	....	2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	....	....	1	3	....	....	....	....	....	....	....	....	4
Total	3	1	339	263	5	1	2	....	19	4	2	1	640
Grand total	4		602		6		2		23		3		640

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	3					2				9
4. Malaria			2	2									4
10. Influenza			1										1
14. Dysentery			1										1
20. Purulent infection and septicæmia			1										1
24. Tetanus									1				1
27a. Beriberi, infantile			8										8
28. Tuberculosis of the lungs			4	4									8
30. Tuberculous meningitis			1	1		1							3
35. Disseminated tuberculosis				1									1
39. Cancer and other malignant tumors of the buccal cavity			1										1
40. Cancer and other malignant tumors of the stomach, liver			1										1
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			2	1									3
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
49. Scurvy			1										1
50. Diabetes			1										1
54. Anæmia, chlorosis				1									1
II Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			2										2
(2) Cerebro-spinal meningitis (undefined)			4										4
64. Cerebral hæmorrhage, apoplexy									1				1
66. Paralysis without specified cause			1										1
68. Other forms of mental alienation				1									1
III. Diseases of the circulatory system													
78. Acute endocarditis				1									1
79. Organic diseases of the heart	1		2	3									6
81. Diseases of the arteries, atheroma, aneurysm, etc			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
IV. Diseases of the respiratory system													
90. Chronic bronchitis			2										2
91. Broncho-pneumonia			6	2									8
92. Pneumonia				3									3
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa				1									1
104. Diarrhœa and enteritis (under 2 years)			2										2
108. Appendicitis and typhlitis			2	1									3
109. Hernias, intestinal obstructions		1											1
110. Other diseases of the intestines			1										1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			2										2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis				1									1
120. Bright's disease			1	2									3
130. Other diseases of the uterus				1									1
131. Cysts and other tumors of the ovary				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
138. Puerperal albuminuria and convulsions				2									2
XII. Old age													
154. Senility			1	4									5
XIII. Affections caused by external causes													
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1	1									2
Total	1	1	57	40		1			4				104
Grand total	2		97		1				4				104

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
8. Whooping cough					1	1
10. Influenza					2	2
14. Dysentery					3	3
18. Erysipelas					3	3
24. Tetanus				3		3
27a. Beriberi, infantile				8	32	40
30. Tuberculous meningitis					3	3
36. Rickets					2	2
49. Scurvy					2	2
54. Anæmia chlorosis					1	1
60. Encephalitis					1	1
61. Simple meningitis:						
(1) Simple meningitis					5	5
(2) Cerebro-spinal meningitis undefined					2	2
71. Convulsions of infants					3	3
84. Diseases of the lymphatic system (lymphangitis, etc.)	1					1
89. Acute bronchitis					15	15
90. Chronic bronchitis					5	5
91. Broncho-pneumonia				1	26	27
92. Pneumonia					3	3
104. Diarrhœa and enteritis					7	7
109. Hernia, intestinal obstruction					1	1
110. Other diseases of the intestines					1	1
119. Acute nephritis					2	2
120. Bright's disease					1	1
150. Congenital malformations (stillbirths not included):						
(3) Other congenital malformations					1	1
151. Congenital debility, icterus and sclerema:						
(1) Premature birth (not stillborn)	5					5
(2) Congenital debility	10	1		13	12	36
152. Other causes peculiar to early infancy:						
(1) Injuries at birth (not stillborn)	1	1				2
167. Burns (conflagration excepted)					1	1
Total	17	2		25	135	179

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,886
Number of rats caught by spring traps	2,720
Number of cage wire traps set	636
Number of rats caught by cage wire traps	3
Number and kind of baits (coconuts)	22,521
Number of poison portions placed	15,514
Number of rats found poisoned	469
Number of rats killed by clubs and other weapons	1,245
Number of rats found dead from other causes	692
Total number of rats otherwise caught, found dead, or killed	5,129
Total number of rats sent to the Laboratory for examination	5,129
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MAY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	7	2	11	5	5	....	11	2	7	3	23	6	64	18
Female	1	....	6	2	3	3	6	1	3	2	5	3	24	11
Home:														
Male	....	....	1	1	....	....	1	1	....	....	....	....	2	2
Female	2	2	2	2	....	....	2	2	2	....	....	....	8	6
Total:														
Male	7	2	12	6	5	....	12	3	7	3	23	6	66	20
Female	3	2	8	4	3	3	8	3	5	2	5	3	32	17
Grand total	10	4	20	10	8	3	20	6	12	5	28	9	98	37

REMARKS:

Total cases reported within the month in the City of Manila		122
Resident cases	84	
Non-resident cases	38	
Foreign cases	0	
Total deaths reported within the month in the City of Manlia		37
Deaths among resident cases	29	
Deaths among non-resident cases	8	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		97
By autopsy	0	
By blood culture	11	
By widal reaction	13	
By urine examination	0	
By feces examination	3	
By clinical symptoms	70	
Confirmed cases as paratyphoid fever		1
Cases not confirmed		24

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF MAY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male					1		2	1			1	1	4	2
Female							1						1	
Home:														
Male	1	1	1	1	2	2	2	2					6	6
Female														
Total:														
Male	1	1	1	1	3	2	4	3			1	1	10	8
Female							1						1	
Grand total	1	1	1	1	3	2	5	3			1	1	11	8

REMARKS:

Total cases reported within the month in the City of Manila		11
Resident cases	10	
Non-resident cases	1	
Total deaths reported within the month in the City of Manlia		8
Deaths among resident cases	7	
Deaths among non-resident cases	1	
Cases not confirmed as dysentery		0

Dysentery carriers—5.

CHOLERA REPORTED DURING THE MONTH OF MAY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No .6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male														
Female														
Home:														
Male														
Female														
Total:														
Male														
Female														
Grand total														

REMARKS:

Total cases reported within the month in the City of Manila		1
Resident cases	1	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	1	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	0	
Deaths among non-resident cases	0	

Cholera carrier—None.

DIPHTHERIA REPORTED DURING THE MONTH OF MAY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male											1		1	
Female														
Home:														
Male														
Female														
Total:														
Male											1		1	
Female														
Grand total											1		1	

REMARKS:

Total cases reported within the month in the City of Manila		5
Resident cases	4	
Non-resident cases	1	
Resident cases not confirmed as diphtheria	4	
Non-resident cases not confirmed as diphtheria	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases	0	
Deaths among non-resident cases	0	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	17	16	5	5
Varioloid	....	....	....	....
Varicella	5	4	....	....
Smallpox	....	....	....	....
Measles	10	5	1	1
Whooping cough	....	1	....	1
Influenza	14	8	3	2
Bubonic plague	....	....	....	....
Beriberi, adult	2	3	1	3
Beriberi, infantile	19	13	19	13
Pulmonary tuberculosis	126	102	73	55
Tuberculosis of all forms	11	6	11	7
Encephalitis lethargica	....	....	....	....

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	6	2	2
Varioloid	....	....	....	....
Varicella	1	....	....	....
Smallpox	....	....	....	....
Measles	1	1	....	....
Whooping cough	....	....	....	....
Influenza	5	....	1	....
Bubonic plague	....	....	....	....
Beriberi adult	....	....	....	....
Beriberi, infantile	8	....	8	....
Pulmonary tuberculosis	20	9	4	4
Tuberculosis of all forms	1	3	1	3
Encephalitis lethargia	....	....	....	....

REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF MAY, 1924

Sera and vaccines	On hand May 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	740,000	....	740,000	85,000	655,000
Anti-tetanic serum (units)	....	125,000	125,000	125,000	....
Anti-dysenteric serum (ampoules)	106	....	106	....	106
Cholera vaccine (c. c.)	2,410	15,000	17,410	9,300	8,110
Dried vaccine virus (units)	2,300	40,000	42,300	39,600	2,700
Fresh vaccine virus (units)	140,400	245,000	385,400	254,400	131,000
Mixed cholera-typoid vaccine (c. c.)	5,450	51,450	56,900	53,810	3,090
Normal horse serum (ampoules)	....	100	100	100	....
Typhoid vaccine (c. c.)	5,380	21,900	27,280	19,020	8,260

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	3,055	174	2,847	34
Meisic	6,205	232	5,500	473
Sampaloc	1,428	262	1,046	120
Tondo	1,613	401	1,124	88
Paco	514	155	295	64
Total	12,815	1,224	10,812	779

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	131	37	28	46	....	....	159	83
Meisic	158	42	97	65	....	....	255	107
Sampaloc	205	17	79	63	....	14	284	94
Tondo	297	73	117	34	23	15	437	122
Paco	123	57	32	30	....	17	155	104
Total	914	226	353	238	23	46	1,290	510

Vaccine virus:

Received	17,800
Used	16,450
Remained	250

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1924

See consolidated table of MIXED VACCINATIONS in the City of Manila.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	....	....	....	....	413	280
No. 2, Meisic	....	....	....	....	709	141
No. 4, Sampaloc	....	....	....	....	185	238
No. 5, Tondo	....	....	....	....	401	526
No. 6, Paco	....	....	....	....	226	328
Total	....	....	....	....	1,934	1,513

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1924—Continued

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	......	......	......	......	330	269	......	......	1,292
No. 2, Meisic	......	......	......	......	504	137	......	......	1,491
No. 4, Sampaloc	......	......	......	......	286	206	......	......	915
No. 5, Tondo	......	......	......	......	596	536	......	......	2,059
No. 6, Paco	......	......	......	......	468	429	......	......	1,451
Total	......	......	......	......	2,184	1,577	......	......	7,208

NOTE.—A, means persons of 15 and over 15 years of age;
C, below 15 years of age.
For first and second injections see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF MAY, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections [1]	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	919	342	620	314	......	......
No. 2, Meisic	955	187	804	150	......	......
No. 4, Sampaloc	316	580	222	376	......	......
No. 5, Tondo	306	455	311	456	......	......
No. 6, Paco	333	456	221	314	......	......
Total	2,829	2,020	2,178	1,610	......	......

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections [1]				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	503	296	479	295	......	......	2,060	1,708	(1)
No. 2, Meisic	802	193	630	143	......	......	2,137	1,727	......
No. 4, Sampaloc	381	511	316	306	......	......	1,788	1,220	......
No. 5, Tondo	484	434	466	473	......	......	1,679	1,706	......
No. 6, Paco	397	452	433	346	......	......	1,638	1,314	......
Total	2,567	1,886	2,324	1,563	......	......	9,302	7,675	......

NOTE.—A, means persons of 15 and over 15 years of age;
C, below 15 years of age.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[a]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	4,996	964	2,657	1,375
Agusan	4,185	919	1,482	1,784
Albay	71,683	10,238	41,991	19,454
Antique	9,121	4,323	2,528	2,270
Bataan	4,322	575	2,279	1,468
Batanes	1,871	285	789	797
Batangas	58,696	8,210	36,984	13,502
Bohol	90,755	16,278	45,090	29,387
Bukidnon	2,322	298	990	1,034
Bulacan	17,145	5,234	6,119	5,792
Cagayan	6,961	2,454	2,063	2,444
Camarines Norte	1,814	753	562	499
Camarines Sur	4,887	1,205	1,956	1,726
Capiz	14,662	6,665	3,800	4,197
Catanduanes	5,365	1,711	1,175	2,479
Cavite	16,342	5,305	3,216	7,821
Cebu	33,861	12,583	8,277	13,001
Cotabato	5,940	1,782	1,256	2,902
Davao	2,214	1,242	541	431
Ilocos Norte	44,324	7,510	23,949	12,865
Ilocos Sur	19,009	4,069	8,682	6,258
Iloilo	41,950	16,026	15,040	10,884
Isabela	4,098	1,338	1,161	1,599
Laguna	12,318	2,995	4,503	4,820
Lanao	4,167	631	2,717	819
La Union	35,382	7,340	20,413	7,629
Leyte	20,243	5,223	8,880	6,140
Marinduque	4,507	835	2,432	1,240
Masbate	4,681	1,420	1,641	1,620
Mindoro	3,065	720	1,223	1,122
Misamis	10,026	3,087	3,067	3,872
Mountain Province	13,961	3,589	6,254	4,118
Nueva Ecija	10,469	2,419	2,213	5,837
Nueva Vizcaya	5,995	879	2,727	2,389
Occidental Negros	28,051	13,753	7,320	6,978
Oriental Negros	14,127	2,890	6,413	4,824
Palawan	2,303	439	1,384	480
Pampanga	73,381	11,270	59,201	2,910
Pangasinan	47,866	15,795	8,161	23,910
Rizal	18,899	3,877	10,351	4,671
Romblon	4,482	1,365	800	2,317
Samar	17,746	3,619	10,850	3,277
Sorsogon	3,092	1,621	612	859
Sulu	2,910	1,181	950	779
Surigao	1,950	433	731	786
Tarlac	11,802	2,498	6,030	3,274
Tayabas	17,191	4,953	6,642	5,596
Zambales	2,064	319	1,351	394
Zamboanga	18,945	5,536	10,802	2,607
Total	856,146	208,654	400,255	247,237

[a] Incomplete reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY 1924 [a]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	343	86	911	502	1,082	1,754	2,336	2,342
Agusan	91	67	246	235	363	382	700	684
Albay	3,562	1,154	7,408	3,405	22,750	12,417	33,720	16,976
Antique	946	227	2,390	809	1,874	1,214	5,210	2,250
Bataan	389	125	812	567	1,151	1,224	2,352	1,916
Batanes	168	55	211	115	607	443	986	613
Batangas	2,151	437	5,602	1,065	14,154	10,405	21,907	11,907
Bohol	2,882	540	9,756	2,513	29,722	19,992	42,310	23,045
Bukidnon	16	6	86	115	386	743	488	864
Bulacan	2,164	307	4,002	1,214	3,784	2,847	9,950	3,868
Cagayan	742	85	1,667	270	2,111	774	4,520	1,129
Camarines Norte	254	54	437	202	474	223	1,165	479
Camarines Sur	354	198	857	506	1,411	870	2,622	1,574
Capiz	1,088	274	2,828	985	3,890	2,755	7,806	4,014
Catanduanes	727	187	862	362	627	418	2,216	967
Cavite	2,151	287	3,452	670	7,068	2,603	12,671	3,560
Cebu	3,877	2,208	5,471	1,910	4,422	3,969	13,770	8,087
Cotabato	74	42	276	536	487	1,627	837	2,205
Davao	72	16	163	50	557	153	792	219
Ilocos Norte	1,674	193	5,002	915	13,364	11,523	20,040	12,631
Ilocos Sur	1,047	149	3,308	982	5,638	3,870	9,993	5,001
Iloilo	4,547	872	9,032	1,892	11,163	6,118	24,742	8,882
Isabela	119	71	581	572	879	876	1,579	1,519
Laguna	953	183	2,215	722	2,939	3,805	6,107	4,710
Lanao	186	23	537	142	929	692	1,652	857
La Union	1,690	301	4,597	1,690	7,993	5,561	14,280	7,552
Leyte	378	96	857	274	897	503	2,132	873
Marinduque	260	102	504	151	1,469	879	2,233	1,132
Masbate	183	57	499	123	652	466	1,334	646
Mindoro	168	31	439	118	983	621	1,590	770
Misamis	404	246	868	586	2,731	1,839	4,003	2,671
Mountain Province	638	169	2,118	851	3,455	2,030	6,211	3,050
Nueva Ecija	1,912	258	1,404	686	2,314	2,047	5,630	2,991
Nueva Vizcaya	476	74	1,426	264	2,709	769	4,611	1,107
Occidental Negros	5,302	1,208	6,560	2,705	4,251	2,119	16,113	6,027
Oriental Negros	1,005	318	4,458	1,392	5,344	3,523	10,807	5,233
Palawan	12	4	98	111	1,100	145	1,210	260
Pampanga	2,787	263	7,150	1,529	23,524	21,728	33,461	23,520
Pangasinan	7,360	1,584	11,827	3,895	9,759	7,825	28,946	13,304
Rizal	1,791	380	2,368	936	4,585	4,515	8,744	5,831
Romblon	255	75	588	398	1,170	820	2,013	1,293
Samar	468	199	2,382	726	6,477	1,733	9,327	2,658
Sorsogon	216	44	204	67	651	97	1,071	208
Sulu	105	35	490	166	1,168	724	1,763	925
Surigao	45	29	190	133	475	494	710	656
Tarlac	1,477	372	1,707	1,309	2,007	3,103	5,191	4,784
Tayabas	1,290	329	3,399	892	5,933	2,904	10,622	4,125
Zambales	7	3	37	32	89	120	133	155
Zamboanga	228	310	1,004	1,005	2,212	5,537	3,444	6,852
Total	58,984	14,328	123,286	41,295	223,780	161,299	406,050	216,922

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[a] Incomplete reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	2,750	2,046	205	109	....	....
Batangas	880	459	34	44	....	....
Bulacan	59	18	....	....	....	....
Cebu	....	....	91	64	....	....
Laguna	176	47	87	32	....	....
Pangasinan	297	293	227	265	....	....
Rizal	19	....	30	8	....	....
Total	4,181	2,863	674	522	....	....

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	2,781	1,894	192	112	....	....	9,471	618	....
Batangas	897	469	24	62	....	....	2,705	164	....
Bulacan	85	42	....	....	....	....	204	....	....
Cebu	....	....	65	56	....	....	....	276	....
Laguna	98	33	59	7	....	....	354	185	....
Pangasinan	396	341	332	315	....	....	1,327	1,189	....
Rizal	20	....	31	11	....	....	89	80	....
Total	4,277	2,779	703	563	....	....	14,100	2,462	....

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	12	17
Albay	42	20	42	20	21	4
Bulacan	666	389	549	322	491	267
Camarines Sur	186	43	82	24	7	....
Catanduanes	82	4	82	4	1	....
Iloilo	17	6	18	5	....	....
Laguna	1,371	408	585	193	223	76
Misamis	37	5	....	....	....	....
Pangasinan	636	478	221	181	75	101
Rizal	285	63	216	5	245	8
Romblon	97	236	3	6	....	....
Tarlac	....	....	....	....	7	....
Total	3,431	1,651	1,804	765	1,082	468

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	17	18	29	31	64
Albay	14	31	14	31	2	11	107	107	38
Bulacan	773	383	637	307	555	262	2,211	1,815	1,575
Camarines Sur	162	38	50	34	......	......	429	190	7
Catanduanes	102	5	102	5	......	......	193	193	1
Iloilo	19	5	20	6	......	......	47	49	......
Laguna	1,533	714	624	209	253	83	4,026	1,611	635
Misamis	20	7	......	......	......	......	69	......	......
Pangasinan	629	406	240	168	58	65	2,144	810	299
Rizal	269	18	156	7	201	1	635	384	150
Romblon	44	184	7	6	......	......	561	22	......
Tarlac	......	......	......	......	14	1	......	......	22
Total	3,577	1,792	1,861	782	1,100	441	10,451	5,212	3,091

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Antique	741	869	318	594	......	......
Batangas	341	188	79	109	......	......
Bataan	143	33	42	16	......	......
Batanes	136	235	......	......	......	......
Cagayan	94	113	25	1	......	......
Camarines Sur	10	7	13	......	......	......
Capiz	519	353	275	154	......	......
Cebu	519	106	176	45	......	......
Davao	14	33	......	......	......	......
Ilocos Norte	1,028	283	254	203	......	......
Ilocos Sur	991	277	1,118	211	423	16
Iloilo	264	245	155	152	......	......
Isabela	35	18	24	14	......	......
La Union	642	455	312	490	......	......
Marinduque	516	413	674	692	......	......
Masbate	121	165	112	154	......	......
Misamis	326	281	152	61	......	......
Mountain Province	16	188	......	......	......	......
Nueva Ecija	897	580	475	730	......	......
Nueva Vizcaya	110	184	110	184	......	......
Occidental Negros	220	82	168	76	......	......
Oriental Negros	837	1,648	222	540	......	......
Palawan	70	......	......	......	......	......
Pangasinan	1,360	1,027	898	748	......	......
Rizal	2,648	1,090	1,788	865	......	......
Romblon	24	3	11	......	......	......
Sorsogon	14	44	......	......	......	......
Sulu	103	8	......	......	......	......
Surigao	238	165	103	107	......	......
Tarlac	862	1,023	477	829	......	......
Tayabas	1,128	443	238	342	......	......
Zambales	90	109	87	106	......	......
Total	15,057	10,668	8,306	7,423	423	16

[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Antique	881	772	332	450	......	......	3,263	1,694	......
Batangas	460	157	103	60	......	......	1,146	351	......
Bataan	105	19	21	9	......	......	300	88	......
Batanes	57	151	......	......	......	......	579	......	......
Cagayan	53	88	7	5	......	......	348	38	......
Camarines Sur	9	6	......	......	......	......	32	13	......
Capiz	451	172	236	31	......	......	1,495	696	......
Cebu	460	120	189	65	......	......	1,205	475	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	834	299	257	210	......	......	2,444	924	......
Ilocos Sur	678	246	675	206	248	6	2,192	2,210	693
Iloilo	163	227	138	227	......	......	899	672	......
Isabela	30	13	23	8	......	......	96	69	......
La Union	401	314	196	228	......	......	1,812	1,226	......
Marinduque	556	615	405	531	......	......	2,100	2,302	......
Masbate	110	232	93	116	......	......	628	475	......
Misamis	216	269	107	98	......	......	1,092	418	......
Mountain Province	1	50	......	......	......	......	255	......	......
Nueva Ecija	369	309	341	638	......	......	2,155	2,184	......
Nueva Vizcaya	73	107	73	107	......	......	474	474	......
Occidental Negros	117	137	113	45	......	......	556	402	......
Oriental Negros	617	969	314	447	......	......	4,071	1,523	......
Palawan	......	......	......	......	......	......	70	......	......
Pangasinan	1,133	1,011	753	686	......	......	4,531	3,085	......
Rizal	837	854	928	617	......	......	5,429	4,198	......
Romblon	20	1	......	......	......	......	48	11	......
Sorsogon	11	52	......	......	......	......	121	......	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	41	31	142	115	......	......	475	467	......
Tarlac	298	729	130	576	......	......	2,912	2,012	......
Tayabas	709	267	190	103	......	......	2,547	873	......
Zambales	54	104	52	99	......	......	357	844	......
Total	9,778	8,350	5,818	5,677	248	6	43,853	27,224	693

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[1] Incomplete reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MAY, 1924

Provinces and towns	Cases	Deaths
Masbate:		
Masbate	2	....
Pangasinan:		
Dagupan	[a] 1	[a] 1
Total	3	1

[a] Foreign case.

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MAY, 1924

Provinces and towns	Cases	Deaths
Cagayan:		
Aparri	1	1
Total	1	1

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA DURING THE MONTH OF MAY, 1924

	Health district—					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending May 1, 1924:						
Minor	56	15	20	38	29	158
Sewer	11	49	10	7	2	79
Vacating	....	9	4	2	3	18
Filling	5	1	14	5	3	28
Total	72	74	48	52	37	283
Orders issued during the month:						
Minor	5	11	1	10	3	30
Sewer	....	2	2	2	....	6
Vacating	61	....	....	....	....	61
Filling	....	....	....	....	....	....
Total	66	13	3	12	3	97
Grand total	138	87	51	64	40	380
Orders completed during the month:						
Minor	5	6	1	3	....	15
Sewer	....	1	....	1	....	2
Vacating	6	....	....	....	....	6
Filling	....	....	1	....	....	1
Total	11	7	2	4	....	24
Orders cancelled during the month:						
Minor	2	....	....	....	....	2
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	1	....	....	....	....	1
Total	3	....	....	....	....	3
Orders pending May 31, 1924:						
Minor	54	20	20	45	32	171
Sewer	11	50	12	8	2	83
Vacating	55	9	4	2	3	73
Filling	4	1	13	5	3	26
Total	124	80	49	60	40	353
Strong material plans approved:						
New buildings including additions and alterations	29	18	26	33	7	113
Permits for minor building constructions:						
Approved	17	8	25	26	6	82
Disapproved	5	1	6	13	3	28
New buildings completed	14	6	9	12	4	45
Light and mixed material construction:						
Permits approved	8	....	35	21	48	112
Permits disapproved	2	....	5	16	26	49
Total number of building projects passed upon	75	33	106	121	94	429
Prosecutions:						
Convictions	....	1	....	....	....	1
Dismissals	....	....	....	....	....	....
Amount of fines	....	₱10	....	....	....	₱10
Plumbing permits issued	41	38	30	38	17	164
Plumbing projects completed	19	21	17	14	4	75
Premises connected to the sanitary sewer to April, 1924	1,717	2,895	1,100	588	430	6,730
Premises connected during May, 1924	19	21	17	14	4	75
Total	1,736	2,916	1,117	602	434	6,805

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV JUNE, 1924 No. 6

In ourselves, we suffer for the sins we commit; in our communities, we suffer for the sins we permit.—TENNESSEE HEALTH DEPARTMENT.

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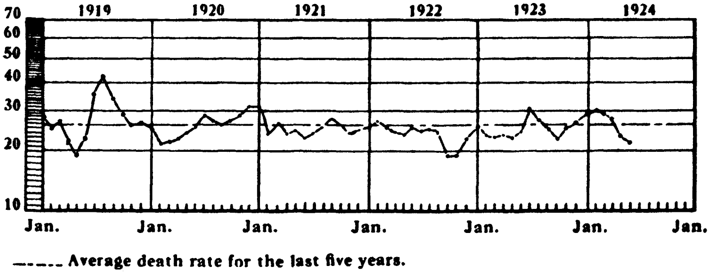

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV JUNE, 1924 No. 6

THE NURSING PROFESSION IN THE PHILIPPINES[1]

By SIXTO Y. OROSA, M.D.
Philippine Health Service

I am indebted to Miss Enriqueta Macaraig, Superintendent of Nurses of the Philippine General Hospital, for this opportunity and honor of addressing the 1924 graduates of nursing. I hesitated long before accepting this task for fear that I might not measure up to the honor it conveys.

Unknown before the advent of America to the Philippines, the nursing profession has now become a well-established institution and has demonstrated the high potentialities of the Filipino woman. In spite of its being new for her, in spite of its being incompatible with our tradition relative to the social position of the Filipino woman and to her inborn timidity, she has in general more than held her own; and among difficulties and dangers she has performed the arduous duties of field and institutional nursing, to her credit and to that of her country. For the last twenty years, she has shown that her seclusion at home for centuries had not dwarfed her character. She has shown that the performance of the duties of a nurse, which implies freedom of action without the restraint of chaperons, is in keeping with her natural tenderness and modesty, which bespeak a character sweet and strong.

Having been a close witness of the work and activities of the nurses in hospitals, in isolated stations, and in city and barrio homes, I sincerely consider the nurse, the teacher, and the physician to be the real pioneers of our Government today. In Mindanao and Sulu, I have seen nurses conquer thru their devotion to duty the prejudices of Mohammedan families and communities against our present ways of treatment, and it is a great satisfaction to say that in spite of the law-and-order upheavals in the Moroland, the position of the health personnel has ever remained secure in the hearts of our Mohammedan brothers.

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[1] Delivered at the Commencement Exercises of the 1924 graduates of nursing, Philippine General Hospital, Manila, March 17, 1924

The male nurse has done his share in the winning of the Mohammedans. Often stationed in the out-of-the-way districts in a new environment, among strange people, away from friends and relatives, and distant from the gayeties of society, frequently without other means of transportation except his weary feet or the swift but unreliable vinta, now sheltering under forest trees, now braving stormy seas, he has effectively carried the science and art of sanitation and hygiene into the most isolated districts and has ministered to the sick in the most distant home. None the less perhaps can be said of those rendering services in the Christian provinces.

The warmth of the discussion which centered around the question of whether the Government should graduate more nurses than it can actually employ, has not as yet subsided. Considering that there is a nurse for every 8,000 inhabitants, we have every reason to believe that the field of nursing in the Philippines, both private and otherwise, is still wide open. Certainly, as our masses become more accustomed to the benefits and blessings of modern medicine, it is safe to say that a number of private nurses ought to be able to make a decent living in our largest towns. The trouble, I am afraid, lies in the fact that there has not been enough enterprise to enter this new and, from all appearances, profitable venture, and perhaps in the fact that in the past the fees charged by private nurses were rather exorbitant.

There are at present eight hospitals under construction, and practically every province has applied for Insular aid for the construction of hospitals under Act 3114. I dare say that two or three years from now, nurses will be in greater demand. There are those who lament the fact that a nurse marries soon after graduation. But let me say that if a nurse does nothing else except become a good wife and an excellent mother after graduation, she will have accomplished a worthy mission, and the efforts and expense of the Government in educating her shall have been just as well fully justified.

While I do not mean to be a party in the spirited controversy now occupying the best minds of our country on what the real position of our women should be, some advocating unlimited freedom for them and the imitations of everything foreign, while others advocating their seclusion at home and the rejection of everything extraneous, I believe that it is best for us to take the middle ground. Let us adopt what is good and reject what is bad, from other countries. Let us recall these lines of Pope:

> Be not the first by which the new is tried,
> Nor yet the last to cast the old aside.

Let us remember the counsel of our elders, "In medio virtus." Furthermore, not everything good that we see in foreigners can be safely introduced, for, we can only absorb to our benefit those traits which will be suitable for us, taking into consideration our climate, resources, psychology, tradition, and kindred factors. And, let me add that what is more important than mere superficial conventionalities is the safeguarding of our virtues and the preservation of our character. May our virtues remain undefiled and our character unblemished! This is the more important, for, a nurse often has to travel alone, remain with patients and accompany physicians without the guiding eyes of her parents or tutors. Next only to the preservation of her character is the care that her reputation may remain unsulied. For, it is not enough that she should be pure, but it is equally necessary and important that the public should think her pure.

Like bubbles that disappear into the air, the daily occurrences of our life vanish into oblivion. But the significance of this day will linger long in your memories. Today you receive your diplomas deserved after years of unremitting toil. In congratulating you for this memorable occasion, allow me to give you some warning. Guard that this symbol of your sacrifices may not be smirched. Endeavor that it may forever be an honor to yourselves and a credit to your Alma Mater and profession. You will soon launch yourselves into the struggle of life and contribute your share in the uplift and development of our country. Often you will have no guide except unwritten rules, and no counsel except your conscience and your spirit of service. Your diploma will be an honor or a discredit to you, just as you will it to be. Its use or abuse will mean your exaltation or disgrace.

Your mission is not a song very likely, it will be to you a wail of anguish and pain. But do not let hardship daunt you, for, life without struggle is life not worth living. Ever strive to be the personification of patience, sympathy, and love, for, nursing as a profession has something of the divine. Show not your own cares and sorrows that they may not reflect on your patients, but let your pure heart and generous soul shine forth to console grief, relieve suffering, and soothe the mind of those in distress.

Let not the glare of gold dazzle you against the horizon of service, let not difficulties and obstacles deviate you from the straight path, and let not selfish ambition deter you from the fulfilment of a mission which demands unstinted self-sacrifice and abnegation. Forge ahead to emulate those who died that others may be saved.

You will be the focus of observant and scrutinizing eyes. Take care, therefore, that others may not be misled. You have a golden opportunity to preach the gospel of health by precept and example. May your calling shed light where there was darkness, science where there was superstition, cleanliness where there was filth, health where there was disease; and like a chisel that makes a beautiful and lasting impress on marble in the hands of a sculptor, may your lifework mould families into health and vigorous communities!

IMPROVEMENT OF SEWAGE CONDITIONS AT BAGUIO

MANILA, *March 31, 1923*

MEMORANDUM for His Excellency, the Governor-General.
(Through the Honorable, the Secretary of Public Instruction.)

REMARKS

This is not a report upon the possibilities of typhoid fever at Baguio, nor upon the disposal of its human excreta generally.

It is merely a report upon the present main sewage disposal system at the city outfall, based upon a brief but what is believed to be a reasonably conclusive examination.

ECONOMIC ASSETS OF BAGUIO

The chief assets of Baguio, from the point of view of local revenue, are:

(*a*) A climate which puts Baguio in the category of a health resort, and brings people there with money to spend.

Its popularity and the money spent by visitors depend upon its reputation. If the latter is impaired by epidemic disease, the number and character of visitors and the amount of money they spend, will be proportionately less.

The financial benefits accruings to Baguio from visitors are better known to its authorities than to myself. That they are great cannot be gainsaid. If the people at large felt that the health conditions at Baguio were absolutely secure, such benefits would unquestionably be greater than at present. The last typhoid outbreak in Baguio is still remembered as a deterrent.

(*b*) A climate in which certain vegetables can be raised, which cannot be raised in the lowlands and for which there is a good demand in the latter.

If infectious epidemic diseases can be traced or reasonably attributed to these vegetables, the demand for them will inevitably decrease greatly, to the financial loss of the farmers and the community.

I was informed that conservative estimates of the value of the vegetable export business of Baguio amounted to anywhere from ₱500,000 to ₱1,000,000 per annum. This amount is far too great to be jeopardized by failure to expend such relatively small sum as would remove suspicion of the healthfulness of these vegetables and promote their use.

SANITATION IS A BASIC NECESSITY FOR BAGUIO

In order to capitalize the foregoing assets of Baguio, its sanitation must be above just criticism. Not to recognize this fact is to evade a basic issue; not to remedy its faults is not economy, but rather an extravagance. Baguio cannot afford to jeopardize its tourist business or its trade in vegetables, or both, by allowing itself to rest under sanitary suspicion.

The reputation of Baguio as a community is like the reputation of a business house. It is like credit in the business work, and good repute in the community, as an asset. The name "Baguio" ought to be like a trade-mark which guarantees unimpeachable quality.

PURITY OF IRRIGATION WATER

The water used for irrigation purposes on vegetables must be pure, if criticism and unpopularity of such product as may be eaten uncooked is not to result.

As far as Baguio vegetables are concerned, the problem seems to be either to take the water for irrigation either from above any sewer outfall, or to render the sewage innocuous by proper treatment.

The latter would be more economical.

PRESENT METHODS OF DISPOSAL OF SEWAGE

This is by septic-tank only, without the additional facilities for further purification which are in accepted use. These other appliances are contact-beds and methods for chlorination.

FUNCTIONS OF SEPTIC-TANKS AND CONTACT-BEDS

The purpose of the septic-tank is to use anaërobic bacteria to nitrify the crude sewage, cause its putrescible matter to pass off as gases or be dissolved in the water in soluble form, and to allow the non-putrescible matter to sediment. There should be little sediment, and the effluent should be clear and almost odorless. A considerable proportion of harmful bacteria should be destroyed.

The purpose of the contact-bed is next to use the aërobic bacteria to oxidize the effluent from the septic-tank. This effluent, while clear and almost odorless, nevertheless contains much organic matter in solution. This soluble organic matter is in a highly unstable form. Under the oxidizing action of the aërobic bacteria, these unstable organic compounds split up and pass off in the form of gases. The same oxidizing action also destroys a very high percentage of the remaining harmful bacteria.

COMPLEMENTARY ACTION OF TANK AND BED

The processes of nitrification and oxidation are thus complementary to each other. Both are necessary. A certain amount of each is required.

In a conversation with Mayor Halsema, I gathered that his idea was that if the present sewage effluent was oxidized, all danger from it would be removed. He seemed to think that the provision of contact-beds alone was necessary, and that in the meantime quite satisfactory results could be obtained by putting some ten or a dozen flashboards across the creek, so as to increase the possibility of oxidation before the creek discharged into the main Trinidad River.

In my opinion, his ideas are greatly in error. The first need is for more nitrification and consequently more septic-tanks or their better use. Contact-beds or sand-filtration are then needed. But neither contact-beds nor sand-filtration will properly handle sewage with anywhere near the proportion of suspended organic matter that is now present in the sewage effluent from Baguio. To put them in without increasing the size or efficiency of the septic-tank will lead to their failure.

CHLORINIZATION OF FINAL EFFLUENT

As a final measure of safety, the effluent from the contact-beds should, in my opinion, be chlorinated.

CONSTRUCTION OF SEPTIC-TANK

There was not sufficient time to investigate the interior construction of the present tank. Proper baffle-plates and other arrangements are essential to the control of flow in order to give maximum efficiency.

SIZE OF SEPTIC-TANK

This is, in my opinion, inadequate. One of the reasons why the present effluent is so foul is probably that the crude sewage cannot remain in the tank long enough to accomplish satisfactory digestion. A sufficient time factor here is indispensable to good results. The present tank is not large enough to give this time factor.

It seems not even necessary to prove this point of measurements of capacity and outflow. A glance at the tank and the volume and foul character of its effluent is probably all that is necessary.

One practical difficulty about septic-tanks is that economy often gives them a size only sufficient to meet existing needs. For a time they work well. When the population grows, they cease to function properly. Then it is like expecting a boy to do a man's work.

The answer of course is to recognize this fact, and add new units from time to time as required. This seems one of the essential things required at Baguio.

CARE OF SEWAGE DISPOSAL PLANT

In my opinion, even the present inadequate methods for disposal of sewage are improperly handled. This is discussed later.

Any new arrangements should, as far as possible, be automatic. Common labor employed about them should be constantly supervised by someone who understands their purpose and workings.

SUSPENDED MATTER

A very high proportion of suspended material was being discharged in the effluent of the septic-tank at the time of my inspection. This effluent was about the color and appearance of pea, soup, and was sufficient similarly to discolor the water of the creek below the sewer outlet. Above this outlet, the creek was clear and limpid.

One of the first essentials of an efficient sewage purification plant is that it shall completely break up all solid material and that the effluent shall be clear and sparkling.

A properly working septic-tank should, by itself, do this. That the existing septic-tank discharges such a foul effluent is abundant evidence that it is not doing its work. Any bacteriological examination would merely be corroborative of contamination that is already grossly apparent to sight, smell, and even touch.

CONTACT-BEDS

There are no contact-beds at Baguio. If the so-called "drying beds" hereafter referred to were intended to be later used as contact-beds, they are improperly constructed by reason, among other things, of lack of sufficient depth to carry a sufficient layer of crushed rock.

But the Baguio sewage plant, to be effective, needs the addition either of contact-beds or sand filtration. The latter costs more and is usually more efficient. But the tremendous rainfall of Baguio will make the contact-beds more practicable, in my opinion.

The sprinkling system of applying the effluent to the contact-bed is the most efficient, and the fall in the Baguio plant makes it very simple and feasible.

As contact-beds are used intermitently, their number and size must be proportioned to the quantity of effluent to be handled. Each bed should be used for four hours, and then stand empty for four hours to allow for aëration. Three fillings in each bed every 24 hours are thus possible.

DRYING-BEDS

There are now flat beds into which the septic-tank is said to be drained periodically to free it from sludge and sedimentary matters.

There seems every reason to believe that not only are sedimentary matters thus drained off, but also the supernatant "mat," which is highly important in excluding the air from the contents of the tank, and thus aiding the anaërobic organisms to flourish and function.

Whoever is operating this tank is apparently not conversant with the principles on which it operates.

CONTENTS OF DRYING-BEDS

The wet sludge discharged into the drying-beds are evaporated by the sun until a dry, ash-colored, caked layer of solids remains.

This dried sludge is then shoveled into containers, and is said to be removed to farms for use as fertilizer.

Its fertilizing value is not known. It is doubtless not as high as crude sewage, by reason of the loss of nitrogen through the volatile ammoniacal compounds into which the putrefactive processes in the septic-tank have at least partly broken it up. The results in practice, however, seem to make it worth while carrying away and using.

It is difficult to see how very much drying out could be accomplished in the rainy season in a climate as wet and stormy as that of Baguio. The daily rainfall in many instances is more than sufficient to fill up these drying-beds to the brim and cause their contents at such times to be largely washed in to the stream with little or no preliminary drying and opportunity to reduce bacterial content by desiccation and the germicidal action of the sun's rays.

The nature and extent of the bacterial and lower forms of animal life which in the dry season survive this drying process are not known to the undersigned. They will naturally depend upon the length of exposure, the intensity of the sun's rays and the degree of dryness accomplished. As ordinarily carried out, it is probable that a good deal of such life persists in viable condition.

There is of course no harm in using this dried sluge at fertilizer if spread on the ground and plowed under—nor if it is spread on the ground for such crops as rice, corn, beans, or other vegetables which must be cooked before being eaten. But it is quite a different matter if this material gains contact with such articles as strawberries, celery, lettuce, radishes, or other vegetable foods habitually eaten uncooked.

I was informed that the Chinese gardeners ordinarily use this dried sludge by suspending it in water and pouring the resultant liquid over the plant to be manured, wetting the plant is well as soil below it in the usual Oriental way of using fertilizer. If this is the case, it should be stopped. If this method of use cannot be stopped by admonition and inspection, then it is recommended that the privilege of getting this *dried sludge* be not granted to any farmer who raises any strawberries or vegetables which are habitually eaten raw.

FLASH-BOARDS

About a dozen wooden flash-boards have been set across the creek at different levels, with the idea of causing the mixture of creek water and sewage effluent to cascade and add to the rapidity of sedimentation and oxidation. This they will doubtless do to some extent. But to assume that they will do it to a sufficient extent is to fall into grave error.

It is true that the contaminated stream gradually clarifies by sedimentation and oxidation. It looks better. But a high proportion of sawage bacteria, which do the harm but which are invisible, are undoubtedly still present.

In my opinion, the flash-boards at Baguio give no security. Further, every heavy rain will wash out any spills not made of concrete.

SO-CALLED "NATURAL PURIFICATION"

In my opinion, the distance between the sewage outfalls for Baguio, and the Teachers' Camp, to the irrigation intake for Trinidad Valley is too short to give reasonable security from any natural processes of purification. It may be possible, but not probable.

DILUTION OF SEWAGE

The amount of dilution which the present effluent undergoes in the Trinidad River is, in my opinion, insufficient in the dry season to add materially to safety.

SEWAGE FROM TEACHERS' CAMP

I was informed that raw sewage was finding its way from this camp into the Lucban River and thence into Trinidad River, but that provisions for sewage disposal were under way.

I had no time to visit this plant, and this report relates to the main sewage disposal plant of the City of Baguio only.

A telegram just received says that this plant for the Teachers' Camp has now been operating for four days.

RECOMMENDATIONS

(*a*) That the present high degree of foulness of sewage where it enters the creek be admitted, as well as reorganized.

(*b*) That any possibility of adequate "natural purification" of this foul sewage before it reaches the irrigation intake be disregarded as highly speculative and more than doubtful.

(*c*) That sewage of Baguio be made to undergo an effective purification by modern methods, including those for nitrification, oxidation, and chlorinization, before it is discharged into the creek.

(*d*) That plans, specifications, and estimates to accomplish this, using the existing installations as far as possible, be prepared at an early date.

(*e*) That the Sanitary Engineer of the Philippine Health Service be directed to prepare these plans, and that the advisory assistance of the Sanitary Engineer of the Rockefeller Foundation be requested in the matter.

(*f*) That when these plans, specifications, and estimates are prepared, they be presented to the authorities of Baguio, with the expectation that their cost will be much more than offset by the increased returns from visitors and garden-truck which will follows the security thus afforded.

E. L. MUNSON

SANITATION CONTEST AS EFFECTIVE MEANS TO IMPROVE PUBLIC HEALTH WORK[1]

By Dr. CESAR MERCADER
President, Eleventh Sanitary Division, Cebu, Cebu

This work is the sum total of the results of the experiences in the work of sanitation; and this paper is presented for consideration, study, and application, if possible, thruout the Philippine Islands. It is taken for granted that one of the most essential points of public health is the carrying out to practice and making viable any scientific method recognized as good and excellent. It is easy to develop theories, and it is more simple to read and note the doctrines and principles from books and medical journals, but to apply them properly is not an easy task to do. This work has for its basis certain traditions of the locality, and inasmuch as these are observed in many municipalities of Cebu, it is believed that sanitation contest will help a great deal towards the improvement of public-health work. The procedure of this contest is as follows:

I. HISTORY AND ORIGIN OF SANITATION CONTEST

The first sanitation contest was first tried on October 3, 1922, in the municipality of Dumanjug of the Eleventh Sanitary Division of Cebu, which is under the charge of the writer. The results of this contest was so satisfactory that within a year ten other sanitation contests were organized in the same municipality and that the same has been extended to some other municipalities of the province.

The introduction of sanitation contest has met the approval of the people of Dumanjug; and it is up to the Philippine Health Service to consider and experiment as to the efficacy of this method so that the same may be generalized in the whole Archipegalo.

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[1] Read before the Mindanao and Sulu Health Officers' Assembly held at Zamboanga on December 17–23, 1923 and translated from Spanish to English by Dr. Teofilo Corpus, Medical Inspector, Philippine Health Service.

II. PRACTICAL APPLICATION OF TRADITIONS

The celebration of "fiestas" is a general tradition in this country. It can be said that these "fiestas" far exceed in magnificence and pomp those of Christmas Days and Holy Week and national holidays such as the Rizal Day and Bonifacio Day.

During the "fiestas," the houses are built and beautified and the people make all the necessary preparations for the occasion. It is during this time that the people liberally dispose of their money, and some even sell their agricultural products so that they may be able to prepare all that may be needed in the "fiesta," thus enabling them to entertain numerous visitors from other municipalities. These are the principal motives which have induced us in taking this step for the improvement of public-health work.

III. TIME OF SANITATION CONTEST

The proper time to celebrate sanitation contest is during the "fiestas" of towns and barrios. Usually, executive committees are organized before the "fiestas" and meeting to this effect is called for. The health officer should take this opportunity so that in the program the celebration of the contest may also be included and a part of the fund set aside for the "fiesta" may be obtained for prizes.

IV. SUB-COMMITTEE OF SANITATION CONTEST

Once the sub-committee has been created the municipality will be divided into districts. The health officer calls the people of each district for a meeting at his office, and after explaining the importance of the contest he assures himself of the number of the contestants.

V. SANITARY ORDER

Those that will take part in the sanitation contest will then be notified of the contest, and by means of posters and notices the same will be announced thruout the municipality, so that in this way as many contestants as possible may be registered. Sanitary improvements should be built and made in each locality as follows:

VI. MATERIAL FOR THE CONTEST

(1) Antipolo system of toilet; (2) Home garden; (3) Hog's fence; (4) Better "tienda" for "sari-sari;" (5) Better "tienda" of "tuba;" and (6) model can-containers for water-carriers.

The assistant sanitary inspector and the president of the sanitary division will take charge of the contest, and will inspect all contestants daily and see to it that all things are done properly and that as many people as possible take part.

The assistant sanitary inspector in each inspection will note the names of the persons that may be able to take part in the contest basing this upon the work they are doing. The contest is by elimination, and at the end of two or three days before judging the winners, the list of the contestants will be prepared, and those whose work are not satisfactory will accordingly be excluded. In this way, only deserving persons may be able to enter the contest.

VII. INDIVIDUAL CONTEST WITH EACH DISTRICT AND INTERDISTRICT CONTEST

The sanitation contest is done within each district. For example, the best Antipolo system of toilet will be selected, and the same way with the other subjects of the contest. After this the interdistrict contest may be done. The district that has done the most number of sanitary improvements will be considered the winning party.

The district health officer of Cebu has a plan on hand that for the year 1924, the contest will be done by intermunicipalities in such a way that it will be carried out thruout the entire year, at the end of which time, the municipality that will have the most number of sanitary improvements will be given the prize. The prize will be divided as follows: (*a*) for the president of the sanitary division, (*b*) for the assistant sanitary inspector, and (*c*) for the municipal president whose work on sanitation is more than that of other municipalities.

VIII. JUDGES AND JUDGING THE WINNERS

The time of judging the winners should be done either one day before or during the "fiesta" of the town or barrio. The district health officer and the presidents of the sanitary divisions with a band of musicians and the assistant sanitary inspectors will then proceed to inspect the sanitary improvements that have been implanted. The district health officer has the list of the contestants that has been previously handed to him by the president of the sanitary division. A parade will then be organized and the people eventually go with the procession, which will thus enable them to see the sanitary improvements that are to be inspected.

IX. DISTRIBUTION OF PRIZES

After the inspections have been verified, the parade gets to an end at the "plaza" where a conglomeration of people is present. Before reading the list of the winners, the importance of the contest and why an individual or a district get the prize will be publicly explained. The contest will be terminated by the distribution of prizes, which are only secondary means to attract the contestants. Last year the following implements were distributed as prizes: Twenty-four shovels, 6 pick-axes, 6 iron bars, 12 brooms, 24 pails, 6 model can-containers for water-carriers, 6 hoes, 1 cupboard, 2 "tuba" containers, and 12 glasses besides the diplomas signed by the president of the sanitary division, chief of the division of provincial sanitation, and the Director of Health in cases of winners of the municipalities, and that signed by the former two and the assistant sanitary inspector in cases of winners of the barrios.

We believe that the sanitary contest has thus been explained. Its advantages seem potent, because the individual takes interest inasmuch as he is given a prize, and which means to us as a permanent sanitary improvement. We submit this fact for the consideration of this convention so that they may adopt the same in their own districts and try the efficacy of this procedure and report the results in the future conventions of the service. We believe that if the sanitation contest is properly carried out, it will be more successful for the public-health campaign than the Clean-Up Week, which up to the present may generally be considered a failure.

DEFINITIONS OF PUBLIC HEALTH TERMS

Dr. C. E. Turner, of the United States Public Health Service, has recently published some definitions on public health education designed, as he points out, to dispel the confusion in the minds of many educators and sanitarians as well as of the general public regarding the scope and connotation of this phrase. Doctor Turner proposes to standardize the use of the various terms applied in this connection under five headings as follows:

HEALTH TRAINING or HEALTH INSTRUCTION, to refer to teaching children in school habits and giving them health information.

PUBLIC HEALTH TRAINING, to refer to teaching men and women to become health officers and nurses.

HEALTH EDUCATION, to refer to teaching present and prospective school teachers how to teach health habits and how to give health information.

HEALTH PUBLICITY WORK, to refer to "selling public health to the people" so they will give moral and financial support to public health agencies and public health work.

POPULAR HEALTH EDUCATION, to refer to the giving to the general non-school-attending public information regarding disease and hygiene, and influencing their behavior so that they will avoid disease and not expose other persons to infection.

School children from the rural and farm sections have plenty of exercise doing chores and helping around generally and physical education is not so very necessary. School life heretofore has been characterized by emphasizing the mental at the expense of the physical with the usual undesirable results, a fact which does not apply to school children from the farm or rural districts who have plenty of exercise helping around and have plenty of outdoor life and recreation and activity. In the case of city children who have no helping to do and somewhat different character of recreation it is different. (Buffalo Sanitary Bulletin, New Series, Vol. XVII, No. 4, Buffalo, N. Y. April 30, 1924.)

MISCELLANEOUS

HEALTHMOBILE EXHIBITED AT LOS BAÑOS

The healthmobile was exhibited at Los Baños, Laguna, from May 24–31, 1924, in connection with the provincial fair. Films and slides were demonstrated from 8 p. m. to 9 p. m. during the fair and an average of 300 persons attended every night.

DOCTOR BANTUG HAS RETURNED

Dr. J. P. Bantug, acting executive officer of the Philippine Health Service, has returned today from a short vacation.

DOCTOR PADUA WAS A GOD-FATHER

Doctor Padua's nephew, the son of Mr. Froilan Gaerlan, a pharmacist, and Mrs. Gaerlan (sister of Doctor Padua), a former student of the Centro Escolar de Señoritas, was baptized at San Juan, La Union, on May 28, 1924. Doctor Padua and Mrs. Jose Maria Paredes (wife of the city fiscal) were the god-father and god-mother, respectively. Luncheon was served at Doctor Padua's house and a dance was well attended at the time.

MAINTENANCE OF NUEVA ECIJA PROVINCIAL HOSPITAL

The provincial board of Nueva Ecija voted the sum of ₱12,000 for the operation and maintenance of the provincial hospital, Stage I, 8 beds, now under construction.

DOCTOR GUTIERREZ RETURNED

Dr. Perpetuo Gutierrez, assistant surgeon of this Service, has returned from an inspection trip in the Island of Catanduanes, Albay, where he treated a number of yaws cases.

DOCTOR CORPUS HAS RETURNED

Dr. Teofilo Corpus, acting assistant executive officer of the Philippine Health Service, has returned to Manila from a short vacation in his home town, Aliaga, Nueva Ecija.

NEW ASSIGNMENTS

Assistant Surgeon Mariano C. Icasiano, of the Philippine Health Service, has been directed to report to the medical officer, Tondo Health Station, for duty there.

Dr. Cristobal Manalang, of the Philippine Health Service, has been directed to proceed to Aparri, Cagayan, for investigation of sanitary conditions there.

Nurse Maria D. Dario, Bontoc Hospital, Mountain Province, has been directed to report to the district health officer of Albay for duty there.

DOCTOR AVELLANA SUBMITS MONTHLY REPORT

Dr. Jose Avellana Basa, chief of the Culion Leper Colony, in his monthly report for the month of May, states that there are at present a total of 5,192 lepers in the colony, represented by various nationalities as follows: Americans, 4; European, 1; Chamorros, 14; Chinese, 17; Japanese, 2; Filipinos, 5,154. There are 2,547 men, 1,349, women, 800 boys, and 496 girls, of whom 1,219 are single, 2,397 married, and 280 widowed.

During the month, 40 were discharged and 5 were born in the colony. One negative leper arrived at Manila on the steamer *Basilan* on June 10, 1924, to be under quarantine at San Lazaro Hospital.

SANITARY ENGINEERING SUBMITS MONTHLY REPORT

Mr. Mañosa, chief of the Division of Sanitary Engineering of the Philippine Health Service, reports that for the month of May, 1924, a total of 113 permits for strong material, 82 for minor building construction, and 112 for light and mixed-material construction were approved. A total of 77 permits were disapproved.

NEW ASSIGNMENT

Nurse Patrocinio del Rosario has been directed to report to the Camp Surgeon, Camp Stotsenberg, Pampanga, for duty with the civilian community there.

MALARIA CONTROL IN PAMPANGA

Sanitary Engineer Tiedeman, of the Rockefeller Foundation, in charge of malaria campaign in Pampanga, in coöperation with the Philippine Health Service, reports that considerable progress has been made during the past month with the work planned during Doctor Heiser's recent visit. The three new engineers are receiving regular field and laboratory assignments and a course of lectures which should give them a good general understanding of all phases of malaria-control work.

The examinations of the whole populations of Floridablanca and Porac have been completed during the month. It will take several months, however, to examine all the blood smears taken which number about 2,000. In addition to this, the topographic survey of Floridablanca has been completed and that of Porac is well under way.

Mr. Tiedeman also reports that regular weekly application of larvacides will be started.

COURSE FOR SANITARY INSPECTORS

The Course for Sanitary Inspectors under the auspices of the Philippine Health Service have been opened today (June 16, 1924).

The following assistant sanitary inspectors from the various provinces have already been accepted: Pablo Apostol, Jose Buenaventura, Francisco Badenas, Baltazar Bernardino, Felix Cruz, Leocadio Garcia, Maximo Garula, Benito Gatpatan, G. Hallares, Jose Hontonin, Apolonio Lozo, Nemesio Pajarillo, Emigdio Paricio, Alfonzo Martin, Celestino Mallari, Pio M. More, N. Nogros, Donato Sabong, and Apolinario Z. Tolentino.

DEPARTMENT OF HYGIENE AND PREVENTIVE MEDICINE, U. P.

PROFESSORIAL LECTURES

Dr. L. Lopez Rizal, lecturer on Epidemiology; Mr. Manuel Mañosa, on Water Purification and Sewage Disposal; and Dr. Regino G. Padua, on Vital Statistics.

Appointments effective June 1, 1924, under Resolution of Board of Regents on June 3, 1924.

AMBULANCE SENT TO ILOCOS SUR

The ambulance of the Philippine Health Service has been sent to Vigan, Ilocos Sur, on June 18, 1924, for the purpose of collecting lepers from that point.

HEALTHMOBILE SENT TO LAGUNA

The healthmobile will be sent to Calamba, Laguna, on June 22, 1924, for demonstration in connection with the town "fiesta," which will be held on June 23 and 24, 1924. The expenses involved in this connection will be paid by the Provincial Health Fund of Laguna.

RECTIFICATION. ATTENTION!

The cholera case published in *El Debate* on June 16, and in the *Free Press* on June 21, 1924, to have occurred in Lupao, Nueva Ecija, was *not a case of cholera* according to the letter of the district health officer of the province.

NEW ASSIGNMENT

Dr. Hilary P. Clapp has been appointed assistant surgeon in the Philippine Health Service, and has been directed to report for duty to the district health officer of Bontoc, Mountain Province.

DR. MANUEL LLORA DESIGNATED CHAIRMAN, BOARD OF MASSEURS

Senior Medical Inspector Manuel Llora, Sampaloc Health Station No. 4, has been designated as acting chairman of the Board of Masseurs until Senior Medical Inspector Felipe Arenas, the regular incumbent, returns to duty. Doctor Llora will handle papers relating to Board of Masseurs and will schedule dates of examinations for masseurs which are regularly given during the months of July and September of each year. He will also receive applications for said examinations.

DOCTOR OROSA BACK

Dr. Sixto Orosa, acting chief of the Division of Hospitals, Dispensaries, and Laboratories arrived at Manila on June 21, 1924, from a short vacation in Zamboanga, Zamboanga.

HEALTH TALKS TO BE BROADCASTED

A short talk on "Intestinal Parasites" under the charge of the Philippine Health Service will be broadcasted by radio on Thursday, June 26, 1924, at 8 p. m., thru the kindness of Mr. Henry Harman of the Electrical Supply Company, Inc., Plaza Santa Cruz, Manila. This will be the first of a series of health talks to be regularly given once every two weeks thru radio by the Philippine Health Service. The date of each health talk will be announced in the press so that as many people as possible thruout the Philippine Islands having receiving stations may be able to listen to it. Later on, it will be given in student dormitories, clubs, and other places where people will be interested in the health talks.

NEWS ABOUT LEPERS

Leper patients at San Lazaro were happy yesterday.

As a result of the bacteriological examinations on Saturday, 14 cases were found negative as follows:

One (from Culion) was definitely discharged;

Five were paroled to their homes, but must return weekly for continued observation and treatment;

Three were transferred to negative section of hospital; and

Five others will remain until further examination warrants transfer or parole.

The foregoing results show the hopefulness of present treatment.

DOCTOR MANALANG SUBMITS REPORT

Dr. Cristobal Manalang, bacteriologist of the Philippine Health Service, reports on June 14, 1924, that in the survey of intestinal parasites in Ilocos Sur, a total of 444 stool specimens have been examined from June 8 to 11 with the percentage of hookworm infection in the various municipalities as follows: Vigan, 1.8 per cent; San Vicente, none; Masingal, none; Cauayan, none; Bantay, 8 per cent; Santa Catalina, 4.2 per cent; Santa, none; and Santo Domingo, 33.3 per cent. Doctor Manalang concludes that hookworm is not a problem in Ilocos Sur, except in the latter municipality, and he attributes the relative absence of this infection to the absence of immigration of laboring or poorer class in the province. The percentage of ascaris found is, however, very high, and this may be avoided by the construction of more Antipolo system of toilets.

At the time of this report Doctor Manalang was making a preliminary survey of stool specimens in Aparri and expects to make a survey in three other municipalities of Cagayan. He will return to Manila by the end of June.

MARRIAGE OF DOCTOR CONSTANTINO LIMJOCO

Senior Medical Inspector Constantino Limjoco, district health officer of Pangasinan, married recently Miss Rosa Ocampo of Candaba, Pampanga.

JAPANASE MEDICAL OFFICER TO ARRIVE SHORTLY

Captain Monshima, of the Japanese Medical Corps, and special friend of the Philippine Relief Mission in Japan, is shortly to arrive in Manila for a special course of study at the Bureau of Science. He will probably stay about a year.

DOCTORS LAYGO AND LOPEZ RIZAL LEFT FOR INSPECTION IN BATANGAS

Drs. Pacifico Laygo, acting assistant chief of the Division of Provincial Sanitation, and Leoncio Lopez Rizal, acting chief of the Division of Communicable Diseases of the Philippine Health Service, made a flying trip to Batangas on June 24 to investigate cholera suspects there. They returned yesterday.

SOMETHING ABOUT BUSINESS ESTABLISHMENTS

The Philippine Health Service calls the attention of persons who desire to establish any business that has any relation with public health to certain sanitary requirements relative to business establishments.

It frequently happens that a person who desires to establish any business in which certain sanitary conditions are necessary incur great expenses for such before applying for a permit at the corresponding health stations. By so doing, he may be risking his money as his business establishment may afterwards be disapproved by the medical officer for lack of certain sanitary requiremtns.

To avoid this trouble, the Philippine Health Service advises all concerned that before incurring expenses for establishing any such business, the medical officer of the corresponding health station be consulted first. He will give all necessary informations on the matter, and he will furnish anyone with copies of the regulations for the establishment of any such business.

MUNICIPALITIES AUTHORIZED TO COLLECT VOLUNTARY CONTRIBUTIONS FOR HOSPITALS

The municipalities of Iligan, Lanao, and La Libertad, Oriental Negros, have been authorized by the Governor-General this year to solicit and receive voluntary contributions for the construction of emergency hospitals; and the municipality of La Trinidad, Mountain Province, for the construction of a public dispensary. Last year the municipalities of Santa Cruz (Laguna), Tarlac (Tarlac), Bangued (Abra), and Malaybalay (Bukidnon) were authorized to solicit such contributions for the same purpose.

The contribution received under this authorization shall be paid into the provincial treasury and taken up in accordance with the instructions of the Bureau of Audits, and shall be subject to the audit of the district auditor. Any contributions heretofore received for this purpose shall be added to those collected under this authorization and shall be devoted to this purpose alone.

LEYTE HEALTH OFFICERS CONFERENCE BEGUN

The conference of the Leyte health officers began in Tacloban on June 25, 1924, according to the telegram of Dr. Vicente Kierulf, district health officer of the province.

DISTRICT INSPECTORS LEFT FOR INSPECTION

Doctor Villafranca, chief of the Office of General Inspection of the Philippine Health Service, left yesterday for inspection in Bulacan and District Inspector Pacifico Laygo to Parañaque, Rizal. District Inspector Gabriel Intengan left this morning for inspection in Pangasinan.

SEVENTY-NINE ASSISTANT SANITARY INSPECTORS PASSED CIVIL-SERVICE EXAMINATION

Out of about 570 competitors, a total of 79 assistant sanitary inspectors passed the civil-service examination held on March 8, 1924, in Manila and in the provinces, 26 of whom passed the promotional examination. Those that obtained the highest ratings in the assistant sanitary inspectors examination are: Eusebio Castelo, 85.42 per cent; Teodoro de Guzman, 84.58 per cent; Serafin Abella, 84.58 per cent; and Custodio Cabangal, 8.17 per cent and in the promotional assistant sanitary inspectors examination, Dionisio Reyes, 82.13 per cent and Epimaco Dioso, 79 per cent.

The list of assistant sanitary inspectors that passed the promotional examination are: Epimaco Dioso, Cayetano Ilagan, Nicanor Carasig, Dionisio Reyes, Jose Arcebal, Fernando Suasin, Francisco Cruz, Teodoro Gali, Severino Hamac, Pedro de la Merced, Pascual Montealegre, Canuto Pagsanjan, Pablo Tiangco, Geronimo Perez, Angel Gatmaitan, Quirino Valenzuela, Felipe San Miguel, Espiridion Mariano, Esteban Lazam, Bernardo Sunga, Ramon Leaño, Basilio Yumul, Faustino Aquino, Maximo del Rosario, Tomas Santos, and Lorenzo Lapuz.

Those that passed the assistant sanitary inspectors examination are: Lorenzo Orense, Amadeo Moya, Mateo Castro, Mauro Arpaño, Marcelino Gonzaga, Fabian Obra, Hugo Meneses, Angelo Arnado, Francisco Pandi, Custodio Cabangal, Mamerto Diñas, Francisco Cabral, Filemon Tupas, Cristeto Firmeza, Pedro Siloterio, Eugenio Navarra, Perfecto Balasote, Ceferino Mabor, Mauricio Tribunal, Marcelino Sobreviñas, Ruperto Reas, Felipe Oliva, Vicente Bien, Geronimo Abrigo, Enrique Gamon, Leon Akofo, Cristobal Perez, Teodoro de Guzman, Marcelo Duque, Manuel Roque, Serafin Abella, Isidro Español, Leandro Sula, Cayetano Saguitan, Margarito Caberic, Jose Santos, Eusebio Sabado, Cornelio Suizo, Eusebio Castelo, Anselmo Bugarin, Antonio Gonzalez, Gerardo Sinon, Honorio Monta, Francisco Dalusag, Honorio Taboga, Simeon Farrales, Felicisimo Porciuncula, Moises Montalvo, Adriano Borja, Apolonio Ingente, Servillano Borja, Leopoldo Becina, and Maximo Aguillon.

DINNER IN HONOR OF COLONEL MUNSON

An exquisite farewell dinner was tendered in honor of Col. Edward L. Munson by the staff and officers of the Philippine Health Service at the Mignon Hotel on June 28, 1924, at 7.30 p. m. Dr. Vicente de Jesus, Director of Health, presented to the guest of honor a watch for bearing the symbol of the service and in which are inscribed "To Col. Edward L. Munson. From the Staff and Officers of the Philippine Health Service." The Honorable Secretary and Under Secretary of the Department of Public Instruction, Eugene A. Gilmore and Alejandro Albert, respectively, were also present. Mr. Gilmore, Colonel Munson, and Doctor De Jesus gave short but very instructive talks.

The staff and officers of the Philippine Health Service present were: Drs. Vicente De Jesus, S. V. del Rosario, Jacobo Fajardo, Eugenio Hernando, Sixto Y. Orosa, Leoncio Lopez Rizal, Jose P. Bantug, Manuel Gomez, Rafael Villafranca, Bonifacio Mencias, Pacifico Laygo, Gabriel Intengan, Teofilo Corpus, Regino G. Padua, R. B. de Leon, Antonio Mañalac, Florentino Ampil, Alfonso Raquel, Jose Vidal, M. V. Arguelles, Catalino Gavino, Pedro Joven, Juan S. Fernando Bartolome Reyes, Elias Domingo, and Samuel Tietze, and Messrs. Mamerto Tianco and Joaquin Lopez.

WARNING

Quaks in one form or another abound and are actually more dangerous than highway-men or bandits who want your money, but not your life, if they can avoid it. The quack not only steal your money but injures your health and often beyond repair.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of June, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JUNE, 1924

Date	Pressure mean [1]	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	756.92	27.4	33.0	1	23.3	6	30.4	30.5
11-20	58.12	27.6	33.9	17	23.7	19	30.6	30.8
21-30	58.84	27.9	33.7	27	23.4	30	30.9	31.1

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	84.3	91.0	9	78.8	3
11-20	82.8	86.1	16	80.0	17
21-30	79.6	82.7	30	75.0	25

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JUNE, 1924—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW	1,899.5	261	3	29.2	4.4	3
11-20	SWquad.	2,131.0	350	19	36.5	5.4	20
21-30	SEquad.	1,705.0	323.5	21	40.6	5.5	23

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	30 25	6 50	6	110.9	7
11-20	36 40	7 05	13	98.3	7
21-30	63 35	8 10	30	33.6	3

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	6	3	9	34.96
Filipinos	542	505	1,047	45.24
Spaniards	2	....	2	12.45
Other Europeans	3	2	5	54.06
Chinese	26	27	53	36.14
All others	4	1	5	27.85
Total and average	583	538	1,121	44.31

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	132	113	245	5	14	19	264	84.87
No. 2, Meisic	70	66	136	6	3	9	145	16.73
No. 4, Sampaloc	102	77	179	4	6	10	189	46.03
No. 5, Tondo	184	192	376	13	13	26	402	59.93
No. 6, Paco	63	50	113	4	4	8	121	44.67
Total	551	498	1,049	32	40	72	1,121	44.31

Number of births attended by physicians, living, 283; stillbirths, 25
Number of births attended by midwife, living, 133; stillbirths, 1
Number of births attended by family, living, 705; stillbirths, 14

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	4	1	5	19.42
Filipinos	316	258	574	24.80
Spaniards	1	1	2	12.45
Other Europeans	1	....	1	10.81
Chinese	16	4	20	13.64
All others	1	....	1	5.57
Total and average	339	264	603	23.83

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	100	72
Divorced	....	....
Widowed	16	43
Single	277	183
Condition not stated	2	....
Total	395	298
Grand total	693	

Stillbirths	40
Number of deaths with medical attendance	336
Number of deaths without medical attendance	357

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	27	24	....	....	51
30 days to under 1 year	63	53	20	9	145
1 year to under 2 years	53	33	3	2	91
2 years to 4 years	20	25	....	1	46
5 years to 9 years	13	8	4	3	28
10 years to 14 years	8	9	3	2	22
15 years to 19 years	18	6	2	2	28
20 years to 29 years	36	15	9	7	67
30 years to 39 years	24	18	6	3	51
40 years to 49 years	21	17	5	2	45
50 years to 59 years	21	16	3	3	43
60 years to 69 years	16	13	....	....	29
70 years to 79 years	11	9	....	....	20
80 years to 89 years	6	9	1	....	16
90 years to 99 years	2	7	....	....	9
100 years and over	....	2	....	....	2
Age not stated	....	....	....	....	....
Total	339	264	56	34	693

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	114	36.65
No. 2, Meisic	108	12.46
No. 4, Sampaloc	93	22.65
No. 5, Tondo	304	45.32
No. 6, Paco	74	27.32
Total	693	27.39

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoidfever			14	4									18
4. Malaria		1	4										5
4a. Malarial cachexia			1										1
6. Measles			1										1
10. Influenza			5	5					1				11
14. Dysentery			5	1					1				7
17. Leprosy				1									1
18. Erysipelas				1									1
20. Purulent infection and septicæmia			2										2
22. Anthrax			1										1
24. Tetanus			2	1					2				5
27. Beriberi			1										1
27a. Beriberi, infantile			19	24					1				44
28. Tuberculosis of the lungs			63	52		1	1		4	1			122
29. Acute miliary tuberculosis			1	1									2
30. Tuberculous meningitis			2	6									8
31. Abdominal tuberculosis			2	1					1				4
32. Pott's disease			1										1
34. Tuberculosis of other organs				2									2
37. Syphilis			2										2
40. Cancer and other malignant tumors of the stomach, liver			1	1									2
42. Cancer and other malignant tumors of the female genital organs				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
47. Acute articular rheumatism			1										1
50. Diabetes					1								1
53. Leuchæmia				1									1
54. Anæmia, chlorosis				1									1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			2	3									5
61. Simple meningitis:													
(1) Simple meningitis			14	12					1				27
(2) Cerebro-spinal meningitis (undefined)	1												1

64. Cerebral hæmorrhage, apoplexy			6	7									13
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			4										4
71. Convulsions of infants (under 5 years of age)				1									1
74. Other diseases of the nervous system			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			3	1									4
79. Organic diseases of the heart	1		3	5									9
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			17	22									39
90. Chronic bronchitis			6	4									10
91. Broncho-pneumonia	1		40	23						1			65
92. Pneumonia	1		3	3									7
93. Pleurisy			1										1
96. Asthma				1									1
V. Diseases of the digestive system													
102. Ulcer of the stomach			1	1			1						8
103. Other diseases of the stomach (cancer excepted)				2									2
104. Diarrhœa and enteritis (under 2 years)			20	6									26
105. Diarrhœa and enteritis (2 years and over)			2	3					1				6
107. Intestinal parasites				1									1
108. Appendicitis and typhlitis			1	1									2
115. Other diseases of the liver			5										5
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			2	4									6
120. Bright's disease			7	5					1				13
122. Other diseases of the kidneys and annexa			1										1
124. Diseases of the bladder				1									1
128. Uterine haemorrhage (nonpuerperal)				1									1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				2									2
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1	1									2
143. Furuncle			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMQNG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)	...	...	...	1	...	...	...	...	...	...	...	...	1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart	...	...	1	1	...	...	...	...	...	...	...	...	2
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)	...	...	5	1	...	...	...	...	...	...	...	...	6
(2) Congenital debility	...	...	19	17	...	...	...	...	1	2	...	...	39
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy	...	...	2	1	...	...	...	...	...	...	...	...	3
XII. Old age													
154. Senility	...	...	12	16	...	...	...	...	...	...	...	...	28
XIII. Affections caused by external causes													
159. Suicide by firearms	...	...	1	...	...	...	...	...	...	...	...	...	1
167. Burns (conflagration excepted)	...	...	...	1	...	...	...	...	...	...	...	...	1
169. Accidental drowning	...	...	1	...	...	...	...	...	1	...	...	...	2
172. Traumatism by fall	...	...	...	...	...	...	...	...	1	...	...	...	1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	...	...	1	...	...	...	...	...	...	...	...	...	1
186. Other external violence	...	...	1	...	...	...	...	...	...	...	...	...	1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	...	...	1	3	...	...	...	...	...	...	...	...	4
Total	4	1	316	258	1	1	2	...	16	4	...	...	603
Grand total	5		574		2		2		20		...		603

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	2							1		7
4. Malaria			1										1
5. Smallpox									1				1
9. Diphtheria and croup			1	2									3
10. Influenza			2	1									3
14. Dysentery			1										1
17. Leprosy				1									1
24. Tetanus			1	1									2
27a. Beriberi, infantile			7	4									11
28. Tuberculosis of the lungs			6	2					1				9
30. Tuberculous meningitis			1										1
35. Disseminated tuberculosis			1	1									2
36. Rickets			1	1									2
40. Cancer and other malignant tumors of the stomach, liver			2										2
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1	1									2
64. Cerebral hæmorrhage, apoplexy				1									1
68. Other forms of mental alienation			2										2
69. Epilepsy			1										1
71. Convulsions of infants (under 5 years of age)				1									1
III. Diseases of the circulatory system													
78. Acute endocarditis			1	1									2
IV. Diseases of the respiratory system													
89. Acute bronchitis			2	1									3
90. Chronic bronchitis				1									1
91. Broncho-pneumonia			4	1									5
92. Pneumonia			1	1									2
93. Pleurisy				1									1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			1										1
105. Diarrhœa and enteritis (2 years and over)			2	1									3
109. Hernias, intestinal obstructions				1									1
114. Biliary calculi				1									1
115. Other diseases of the liver									1				1
117. Simple peritonitis (nonpuerperal)			1										1
118. Other diseases of the digestive system (cancer and tuberculosis excepted)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
120. Bright's disease			1	3									4
126. Diseases of the prostate	1												1
VII. The puerperal state													
136. Other accidents of labor				1									1
187. Puerperal septicæmia				2									2
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			4										4
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)				1									1
Total	1		51	34					3		1		90
Grand total	1		85						3		1		90

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
4. Malaria	....	....	....	....	1	1
10. Influenza	....	....	....	....	4	4
24. Tetanus	....	....	....	2	....	2
27a. Beriberi, infantile	1	1	....	2	51	55
29. Acute miliary tuberculosis	....	....	....	....	1	1
30. Tuberculous meningitis	....	....	....	....	1	1
36. Rickets	....	....	....	....	2	2
37. Syphilis	....	....	....	1	....	1
61. Simple meningitis:						
(1) Simple meningitis	....	....	....	....	9	9
(2) Cerebro-spinal meningitis (undefined)	....	....	....	....	1	1
89. Acute bronchitis	....	....	....	....	26	26
90. Chronic bronchitis	....	....	....	....	5	5
91. Broncho-pneumonia	....	....	....	....	18	18
92. Pneumonia	....	....	....	....	1	1
93. Pleurisy	....	....	....	....	1	1
103. Other diseases of the stomach (cancer excepted)	....	....	....	....	1	1
104. Diarrhœa and enteritis	....	....	....	....	13	13
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart	....	....	....	1	1	2
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not stillborn)	4	....	....	2	....	6
(2) Congenital debility	13	1	....	14	15	43
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1	1	....	1	....	3
Total	19	3	....	23	151	196

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,140
Number of rats caught by spring traps	2,634
Number of cage wire traps set	602
Number of rats caught by cage wire traps	3
Number and kind of baits (coconuts)	21,742
Number of poison portions placed	15,305
Number of rats found poisoned	505
Number of rats killed by clubs, and other weapons	1,324
Number of rats found dead from other causes	708
Total number of rats otherwise caught, found dead, or killed	5,174
Total number of rats sent to the Laboratory for examination	5,174
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JUNE, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	9	1	12	2	9	3	10	2	8	1	29	5	77	14
Female	4	0	8	0	3	0	1	1	0	0	15	2	31	3
Home:														
Male	0	0	2	2	1	1	1	1	1	1	0	0	5	5
Female	1	1	0	0	1	1	2	0	1	1	0	0	5	3
Total:														
Male	9	1	14	4	10	4	11	3	9	2	29	5	82	19
Female	5	1	8	0	4	1	3	1	1	1	15	2	36	6
Grand total	14	2	22	4	14	5	14	4	10	3	44	7	118	25

REMARKS:

Total cases reported within the month in the City of Manila		150
Resident cases	97	
None-resident cases	53	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		25
Deaths among resident cases	18	
Deaths among non-resident cases	7	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		116
By autopsy	0	
By blood culture	14	
By widal reaction	4	
By urine examination	0	
By feces examination	1	
By clinical symptoms	97	
Confirmed cases as paratyphoid fever		2
Cases not confirmed		32

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF JUNE, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	1	1	1	1	2	0	1	1	0	0	2	1	7	4
Female	0	0	0	0	0	0	2	1	0	0	0	0	2	1
Home:														
Male	0	0	0	0	1	1	4	1	1	1	0	0	6	3
Female	0	0	0	0	1	0	1	0	0	0	0	0	2	0
Total:														
Male	1	1	1	1	3	1	5	2	1	1	2	1	13	7
Female	0	0	0	0	1	0	3	1	0	0	0	0	4	1
Grand total	1	1	1	1	4	1	8	3	1	1	2	1	17	8

REMARKS:

Total cases reported within the month in the City of Manila		20
Resident cases	16	
Non-resident cases	4	
Total deaths reported within the month in the City of Manila		8
Deaths among resident cases	7	
Deaths among non-resident cases	1	
Cases not confirmed as dysentery		3

Dysentery carrier—None

CHOLERA REPORTED DURING THE MONTH OF JUNE, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases reported within the month in the City of Manila		9
Resident cases	7	
Non-resident cases	2	
Foreign cases	0	
Resident cases not confirmed as cholera	7	
Non-resident cases not confirmed as cholera	2	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	1	
Deaths among non-resident cases not confirmed as cholera	1	

Cholera carrier—None

DIPHTHERIA REPORTED DURING THE MONTH OF JUNE, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Female	0	0	0	0	1	0	0	0	0	0	2	2	3	2
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Female	0	0	0	0	1	0	0	0	0	0	2	2	3	2
Grand total	0	0	0	0	1	0	0	0	0	0	3	3	4	3

REMARKS:

Total cases reported within the month in the City of Manila		7
Resident cases	4	
Non-resident cases	3	
Resident cases not confirmed as diphtheria	3	
Non-resident cases not confirmed as diphtheria	0	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases	0	
Deaths among non-resident cases	3	

Diphtheria carrier—None

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	30	7	5	1
Varioloid	0	0	0	0
Varicella	1	1	0	0
Smallpox	0	0	0	0
Measles	3	5	1	0
Whooping cough	0	0	0	0
Influenza	23	15	6	5
Bubonic plague	0	0	0	0
Beriberi, adult	1	0	1	0
Beriberi, infantile	20	24	20	24
Pulmonary tuberculosis	126	115	69	55
Tuberculosis of all forms	6	8	6	9
Encephalitis lethargica	1	0	0	0

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	11	3	1	0
Varioloid	0	0	0	0
Varicella	1	0	0	0
Smallpox	1	0	1	0
Measles	0	0	0	0
Whooping cough	1	0	0	0
Influenza	5	2	2	1
Bubonic plague	0	0	0	0
Beriberi, adult	0	0	0	0
Beriberi, infantile	7	4	7	4
Pulmonary tuberculosis	24	11	7	2
Tuberculosis of all forms	2	1	2	1
Encephalitis lethargica	1	0	0	0

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JUNE, 1924

Sera and vaccines	On hand June 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diptheric serum (units)	655,000	....	655,000	380,000	275,000
Anti-tetanic serum (units)	....	309,000	309,000	309,000	....
Anti-dysenteric serum (ampoules)	106	50	156	149	7
Cholera vaccine (c.c.)	8,110	21,230	29,340	27,100	2,240
Dried vaccine virus (units)	2,700	40,000	42,700	39,300	3,400
Fresh vaccine virus (units)	131,000	200,000	331,000	273,800	57,200
Mixed cholera-typhoid vaccine (c.c.)	3,090	104,890	107,980	95,800	12,180
Typhoid vaccine (c.c.)	8,260	....	8,260	8,260	....

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	4,838	160	4,661	17
Meisic	13,283	328	12,614	341
Sampaloc	1,724	216	1,464	44
Tondo	1,297	278	940	79
Paco	852	152	669	31
Total	21,994	1,134	20,348	512

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JUNE 1924—Continued

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	201	12	27	14	....	....	228	26
Meisic	228	44	21	15	33	9	282	68
Sampaloc	253	9	104	89	....	....	357	98
Tondo	321	68	90	32	16	27	427	127
Paco	236	17	50	61	4	18	290	96
Total	1,239	150	292	211	53	54	1,584	415

Vaccine Virus:	
Received	30,850
Used	27,650
Remained	3,200

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	....	....	....	....	473	138
No. 2, Meisic	....	....	....	....	672	179
No. 4, Sampaloc	....	....	....	....	84	131
No. 5, Tondo	....	....	....	....	129	223
No. 6, Paco	....	....	....	....	189	186
Total	....	....	....	....	1,502	857

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	....	....	....	....	741	132	....	....	1,484
No. 2, Meisic	....	....	....	....	513	177	....	....	1,496
No. 4, Sampaloc	....	....	....	....	115	180	....	....	510
No. 5, Tondo	....	....	....	....	222	216	....	....	790
No. 6, Paco	....	....	....	....	251	218	....	....	844
Total	....	....	....	....	1,842	923	....	....	5,124

Four hundred sixty-two revaccinations made in Station No. 1, Intramuros, are included in the above table.

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

For first and second injection see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JUNE, 1924

Districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections[1]	
	A.	C.	A.	C.	A.	C.
No. 1, Intramuros	3,209	354	1,394	241	....	....
No. 2, Meisic	1,360	283	881	196	....	....
No. 4, Sampaloc	575	1,238	204	312	....	....
No. 5, Tondo	626	1,269	202	585	....	....
No. 6, Paco	304	651	218	302	....	....
Total	6,074	3,795	2,899	1,636	....	....

Districts	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections[1]				
	A.	C.	A.	C.	A.	C.	First	Second	Third
No. 1, Intramuros	1,680	299	981	258	....	....	5,542	2,874	(1)
No. 2, Meisic	1,193	287	758	208	....	....	3,123	2,043	....
No. 4, Sampaloc	511	1,209	252	346	....	....	3,533	1,114	....
No. 5, Tondo	937	1,589	559	885	....	....	4,421	2,231	....
No. 6, Paco	379	595	314	296	....	....	1,929	1,130	....
Total	4,700	3,979	2,864	1,993	....	....	18,548	9,392	....

Eight hundred twenty-seven revaccinations made in Station No. 1, Intramuros, are included in the above table.

Two thousand twenty-eight revaccinations made in Station No. 5, Tondo, are included in the above table.

NOTE.—A means persons of 15 and over 15 years of age; C, below 15 years of age.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	6,488	1,260	3,470	1,758
Agusan	5,023	1,191	1,737	2,095
Albay	75,585	11,291	42,883	21,411
Antique	9,121	4,323	2,528	2,270
Bataan	5,070	678	2,638	1,754
Batanes	1,871	285	789	797
Batangas	69,335	9,708	43,757	15,870
Bohol	109,679	19,170	55,307	35,202
Bukidnon	2,322	298	990	1,034
Bulacan	17,754	5,419	6,242	6,093
Cagayan	17,495	6,072	5,089	6,334
Camarines Norte	3,185	1,432	871	882
Camarines Sur	5,463	1,347	2,174	1,942
Capiz	18,762	8,170	4,821	5,771
Catanduanes	7,398	2,759	1,280	3,359
Cavite	19,166	5,984	3,834	9,348
Cebu	55,554	20,402	12,916	22,236
Cotabato	8,180	2,665	1,752	3,763
Davao	2,214	1,242	541	431
Ilocos Norte	61,193	9,745	33,346	18,102
Ilocos Sur	23,004	4,827	10,676	7,501
Iloilo	50,324	18,556	18,098	13,670
Isabela	6,784	2,325	1,968	2,491
Laguna	19,198	4,449	7,074	7,675
Lanao	5,147	729	3,294	1,124
La Union	45,544	8,467	26,988	10,089
Leyte	25,190	6,918	10,573	7,699
Marinduque	6,367	1,308	3,129	1,930
Masbate	5,906	1,891	1,905	2,110
Mindoro	3,975	1,043	1,490	1,442
Misamis	10,026	3,087	3,067	3,872
Mountain Province	17,126	4,358	7,893	4,875
Nueva Ecija	16,365	3,998	4,357	8,010
Nueva Vizcaya	7,109	1,013	3,267	2,829
Occidental Negros	28,051	13,753	7,320	6,978
Oriental Negros	17,352	3,676	7,859	5,817
Palawan	3,293	1,049	1,566	678
Pampanga	81,551	11,800	66,000	3,751
Pangasinan	56,655	18,003	9,775	28,877
Rizal	25,122	5,181	13,721	6,220
Romblon	5,466	1,674	1,112	2,680
Samar	17,746	3,619	10,850	3,277
Sorsogon	5,132	2,209	1,364	1,559
Sulu	5,401	2,327	1,550	1,524
Surigao	2,541	497	1,052	992
Tarlac	13,894	2,811	7,387	3,696
Tayabas	25,417	7,594	10,031	7,792
Zambales	2,064	319	1,351	394
Zamboanga	21,345	6,823	11,406	3,116
Total	1,053,953	257,745	483,088	313,120

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[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	453	111	1,171	655	1,447	2,244	3,071	3,010
Agusan	115	108	281	292	434	604	830	999
Albay	3,951	1,300	7,418	3,608	23,013	12,955	34,382	17,863
Antique	1,125	278	2,895	1,040	2,257	1,451	6,277	2,769
Bataan	467	147	969	667	1,332	1,422	2,768	2,236
Batanes	168	55	211	115	607	443	986	613
Batangas	2,685	573	6,431	1,202	16,182	11,692	25,298	13,467
Bohol	3,359	632	11,524	3,132	36,746	25,026	51,629	28,790
Bukidnon	16	6	86	115	386	743	488	864
Bulacan	2,279	331	4,211	1,300	4,018	2,448	10,508	4,079
Cagayan	2,290	303	4,343	961	5,190	2,469	11,823	3,733
Camarines Norte	382	88	798	312	793	401	1,973	801
Camarines Sur	386	230	997	592	1,477	951	2,860	1,773
Capiz	1,373	338	3,640	1,259	4,883	3,554	9,896	5,146
Catanduanes	1,225	303	1,497	581	854	583	3,576	1,467
Cavite	2,489	322	3,950	823	8,225	3,132	14,664	4,277
Cebu	6,255	3,505	9,054	3,266	6,696	5,747	22,005	12,518
Cotabato	108	63	507	644	912	1,843	1,527	2,550
Davao	102	26	232	78	886	623	1,220	727
Ilocos Norte	2,597	465	7,215	1,782	18,965	18,410	28,777	20,657
Ilocos Sur	1,276	179	3,913	1,266	6,655	4,972	11,844	6,417
Iloilo	5,270	962	10,832	2,192	13,327	7,592	29,429	10,746
Isabela	217	182	1,103	1,090	1,502	1,632	2,822	2,904
Laguna	1,284	355	3,216	1,197	4,338	6,107	8,838	7,659
Lanao	205	30	621	172	1,034	755	1,860	957
La Union	1,958	362	5,846	2,133	10,827	8,136	18,631	10,631
Leyte	1,032	363	3,336	1,189	4,307	2,121	8,675	3,673
Marinduque	345	150	774	229	2,049	1,126	3,168	1,505
Masbate	224	71	658	204	981	793	1,863	1,068
Mindoro	195	50	591	181	1,198	772	1,984	1,003
Misamis	404	246	868	586	2,781	1,839	4,003	2,671
Moutain Province	805	195	2,729	1,058	4,374	2,566	7,908	3,819
Nueva Ecija	3,148	505	2,185	1,301	3,209	3,583	8,542	5,389
Nueva Vizcaya	554	87	1,706	318	3,167	954	5,427	1,359
Occidental Negros	5,302	1,203	6,560	2,685	4,251	2,119	16,113	6,007
Oriental Negros	1,295	416	4,125	1,722	5,924	4,057	11,344	6,195
Palawan	78	18	354	158	1,474	162	1,906	333
Pampanga	3,393	867	8,660	2,032	26,970	27,695	39,023	30,094
Pangasinan	8,348	1,785	13,403	4,373	11,438	9,057	33,189	15,215
Rizal	2,276	592	3,078	1,528	5,503	6,090	10,852	8,210
Romblon	293	78	692	443	1,255	921	2,240	1,442
Samar	468	199	2,382	726	6,477	1,733	9,327	2,658
Sorsogon	687	317	1,242	591	1,728	850	3,657	1,758
Sulu	228	75	1,004	415	1,914	1,129	3,146	1,619
Surigao	59	47	253	180	555	630	867	857
Tarlac	1,620	405	1,882	1,429	2,468	3,835	5,970	5,669
Tayabas	2,108	523	5,072	1,451	8,663	4,028	15,843	6,002
Zambales	7	3	37	32	89	120	133	155
Zamboanga	259	333	1,217	1,085	3,150	6,091	4,626	7,509
Total	75,163	19,267	155,764	54,390	276,861	208,206	507,788	281,863

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	3,755	2,415	233	114	....	....
Batangas	1,124	700	42	67	....	....
Bulacan	398	579	....	......	....	....
Catanduanes	26	25	....	....	....	....
Cebu	....	....	91	64	....	....
Laguna	267	71	87	32	....	....
Pangasinan	1,134	855	510	458	....	....
Rizal	19	....	31	11	....	....
Sorsogon	43	31	....	....	....	....
Total	6,766	4,676	994	746	....	....

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	3,703	2,282	227	115	....	....	12,155	689	....
Batangas	1,246	716	48	65	....	....	3,786	222	....
Bulacan	401	501	....	....	....	....	1,879	....	....
Catanduanes	13	20	....	....	....	....	84	....	....
Cebu	....	....	65	56	....	....	....	276	....
Laguna	171	61	59	7	....	....	570	185	....
Pangasinan	1,185	956	641	533	....	....	4,130	2,142	....
Rizal	20	....	39	18	....	....	89	99	....
Sorsogon	29	17	....	....	....	....	120	....	....
Total	6,768	4,553	1,079	794	....	....	22,763	3,613	....

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	12	17
Albay	42	20	42	20	21	4
Bulacan	1,415	778	1,108	607	844	479
Camarines Sur	186	43	82	24	7	....
Catanduanes	85	4	83	4	1	....
Iloilo	28	9	34	10	4	....
Laguna	1,897	509	1,030	260	512	122
Mountain Province	180	134	....	....	....	....
Misamis	37	5	....	....	....	....
Pampanga	936	1,012	632	673	171	164
Pangasinan	693	510	262	217	77	102
Rizal	424	164	319	88	318	74
Romblon	101	247	7	9	1	....
Tarlac	....	....	....	....	8	....
Total	6,036	3,439	3,605	1,917	1,971	962

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[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	17	18	29	31	64
Albay	14	31	14	31	2	11	107	107	38
Bulacan	1,551	779	1,260	630	985	491	4,523	3,605	2,799
Camarines Sur	162	38	50	34	......	......	429	190	7
Catanduanes	111	5	110	5	......	......	205	202	1
Iloilo	45	8	37	9	7	......	90	90	11
Laguna	2,139	836	1,230	325	703	195	5,381	2,845	1,532
Mountain Province	......	......	......	......	......	......	314	......	......
Misamis	20	7	......	......	......	......	69	......	......
Papamga	909	817	719	626	153	112	3,674	2,650	600
Pangasinan	697	455	296	210	58	66	2,355	985	303
Rizal	393	97	263	75	280	52	1,078	745	719
Romblon	44	184	24	26	1	......	576	66	2
Tarlac	......	......	......	......	14	1	......	......	23
Total	6,097	3,258	4,014	1,980	2,220	946	18,830	11,516	6,096

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	18	9	18	9	......	......
Antique	1,014	1,006	409	638	......	......
Bataan	150	33	43	16	......	......
Batanes	136	235	......	......	......	......
Batangas	942	614	439	400	......	......
Bulacan	30	25	18	4	......	......
Cagayan	281	301	57	106	......	......
Camarines Sur	10	7	13	......	......	......
Capiz	1,021	454	409	202	......	......
Cavite	1,109	755	713	315	......	....
Cebu	519	106	176	45	......	......
Davao	14	33	......	......	......	......
Ilocos Norte	1,366	585	330	246	......	......
Ilocos Sur	1,225	293	1,340	265	423	16
Iloilo	323	270	202	175	......	......
Isabela	52	22	41	18	......	......
La Union	1,307	645	676	772	......	......
Marinduque	734	543	758	787	......	......
Masbate	121	165	112	154	......	......
Mindoro	15	7	......	......	......	......
Misamis	621	459	192	68	......	......
Mountain province	16	188	......	......	......	......
Nueva Ecija	1,144	782	590	790	......	......
Nueva Vizcaya	110	184	110	184	......	......
Occidental Negros	647	334	438	165	......	......
Oriental Negros	948	1,725	271	559	......	......
Palawan	70	......	......	......	......	......
Pampanga	1,064	667	577	370	......	......
Pangasinan	3,178	1,657	1,283	1,076	......	......
Rizal	3,389	1,244	2,199	931	......	......
Romblon	30	4	11	......	......	......
Samar	......	......	30	......	......	......
Sorsogon	104	198	......	......	......	......
Sulu	103	8	......	......	......	......
Surigao	238	165	103	107	......	......
Tarlac	1,105	1,137	484	833	......	......
Tayabas	1,922	624	475	413	......	......
Zambales	712	440	625	430	......	......
Zamboanga	81	47	......	......	......	......
Total	25,869	15,971	13,142	10,078	423	16

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[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES DURING THE MONTH OF JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	23	67	23	67	......	......	117	117	......
Antique	1,212	922	402	502	......	......	4,154	1,951	......
Bataan	114	20	25	9	......	......	817	93	......
Batanes	57	151	......	......	......	......	579	......	......
Batangas	1,454	550	585	305	......	......	3,560	1,729	......
Bulacan	35	36	5	24	......	......	126	51	......
Cagayan	146	248	26	91	......	......	976	280	......
Camarines Sur	9	6	......	......	......	......	82	13	......
Capiz	611	276	293	62	......	......	2,362	966	......
Cavite	893	573	573	244	......	......	3,330	1,845	......
Cebu	460	120	189	65	......	......	1,205	475	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	1,332	545	348	265	......	......	3,828	1,189	......
Ilocos Sur	718	271	813	228	248	6	2,507	2,646	693
Iloilo	196	254	172	260	......	......	1,043	809	......
Isabela	89	17	32	12	......	......	130	103	......
La Union	857	518	479	446	......	......	3,327	2,373	......
Marinduque	736	740	487	699	......	......	2,753	2,781	......
Masbate	110	232	93	116	......	......	628	475	......
Mindoro	17	7	......	......	......	......	46	......	......
Misamis	495	410	148	109	......	......	1,985	517	......
Mountain Province	1	50	......	......	......	......	255	......	......
Nueva Ecija	435	348	407	679	......	......	2,709	2,466	......
Nueva Vizcaya	73	107	73	107	......	......	474	474	......
Occidental Negros	481	410	409	225	......	......	1,872	1,287	......
Oriental Negros	682	1,018	337	467	......	......	4,373	1,684	......
Palawan	......	......	......	......	......	......	70	......	......
Pampanga	858	533	504	356	......	......	3,122	1,807	......
Pangasinan	2,530	1,543	1,683	986	......	......	8,908	5,028	......
Rizal	1,724	987	1,449	681	......	......	7,344	5,260	......
Romblon	28	3	......	......	......	......	65	11	......
Samar	......	18	......	......	......	......	18	30	......
Sorsogon	65	246	......	......	......	......	613	......	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	41	31	142	115	......	......	475	467	......
Tarlac	462	815	137	579	......	......	3,519	2,033	......
Tayabas	1,268	422	380	143	......	......	4,286	1,411	......
Zambales	526	362	487	343	......	......	2,040	1,885	......
Zamboanga	58	89	......	......	......	......	225	......	......
Total	18,780	12,924	10,701	8,185	248	6	73,544	42,106	693

[1] Incomplete, reports from other provinces not yet received.
A means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JUNE, 1924

Provinces and towns	Cases	Deaths
Tayabas:		
Atimonan	1	1
Total	1	1

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JUNE, 1924

Provinces and towns	Cases	Deaths
Batangas:		
Rosario	1	1
Lipa	2	2
San Jose	1	1
Nueva Ecija:		
Cabanatuan	1	......
Bulacan:		
Polo	2	2
Ilocos Norte:		
Badoc	1	1
Total	8	7

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF JUNE, 1924

	Health districts					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending June 1, 1924:						
Minor	54	20	20	45	32	171
Sewer	11	50	12	8	2	83
Vacating	55	9	4	2	3	73
Filling	4	1	13	5	3	26
Total	124	80	49	60	40	353
Orders issued during the month:						
Minor	5	7	....	1	4	17
Sewer	1	2	....	....	....	3
Vacating	2	....	....	....	....	2
Filling	1	10	....	....	1	12
Total	9	19	....	1	5	34
Grand total	133	99	49	61	45	387
Orders completed during the month:						
Minor	2	7	3	2	6	20
Sewer	....	1	1	....	....	2
Vacating	54	2	....	....	....	56
Filling	1	....	....	....	....	1
Total	57	10	4	2	6	79
Orders cancelled during the month:						
Minor	....	1	....	1	....	2
Sewer	....	1	1	....	....	2
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	2	1	1	....	4
Orders pending June 30, 1924:						
Minor	57	19	17	43	30	166
Sewer	12	50	10	8	2	82
Vacating	3	7	4	2	3	19
Filling	4	11	13	5	4	37
Total	76	87	44	58	39	304
Strong material plans approved:						
New buildings including additions and alterations	21	26	10	20	13	90
Permits for minor building constructions:						
Approved	22	9	16	36	12	95
Disapproved	2	3	4	12	....	21
New buildings completed	8	7	14	7	2	38
Light and mixed material constructions:						
Permits approved	7	....	36	18	65	126
Permits disapproved	....	....	8	6	14	28
Total number of building projects passed upon	60	45	88	99	106	398
Prosecutions:						
Convictions	....	....	1	....	....	1
Dismissals	....	1	....	....	....	1
Amount of fines	....	....	₱25	....	....	₱25
Plumbing permits issued	39	37	24	20	14	134
Plumbing projects completed	24	16	10	18	8	76
Premises connected to sanitary sewer to May 31, 1924	1,736	2,916	1,117	602	434	6,805
Premises connected during June, 1924	9	3	2	4	2	20
Total	1,745	2,919	1,119	606	436	6,825

Intramuros includes Ermita and Malate; Meisic includes Sta. Cruz, Binondo, and San Nicolas; Sampaloc includes Quiapo, San Miguel, and Sta. Mesa; Paco includes Pandacan and Sta. Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV JULY, 1924 No. 7

For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir RONALD ROSS.

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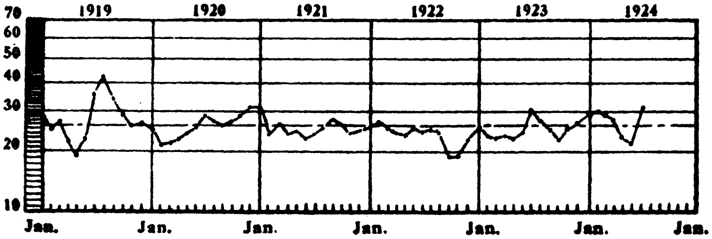
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
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1924

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MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV JULY, 1924 No. 7

REMARKS TO THE GRADUATING CLASS, COURSE FOR SANITARY INSPECTORS, PHILIPPINE HEALTH SERVICE, MARCH 23, 1924

By Col. EDWARD L. MUNSON

GENTLEMEN OF THE GRADUATING CLASS:

First, I want to congratulate you on having completed your course of study with credit. You have demonstrated an ability to succeed in what you undertake. By this success, you have proved yourselves capable of making others. Much is expected of you. Second, I want to congratulate the people of the Philippine Islands, to whom your special training and graduation means a higher standard of efficiency among those to whom they must look for the protection and promotion of their health and welfare. Third, I want to congratulate all humanity, for disease knows no racial or political boundaries, and every progressive step taken here in these Islands is reflected in better health conditions for the world at large. In every country, similar groups are working with you in the common cause of human welfare.

You, gentlemen, are also fortunate in being able to immediately apply the results of your recent training. A general education necessarily has much in it that many people can apply but little in their daily lives or means of livelihood. But every bit of the special information you have gained in your recent intensive training you will apply not only in making your own lives longer and happier, and in protecting your friends and people, but in advancing your material, social, and financial prospects.

I consider you sanitary inspectors to be one of the most important groups entering into the Health Service. You are the agents through which the Health Service comes in contact with the people. The nature of your duties brings you into the most intimate relations with all classes in your communities. It is human nature to pass judgment upon any organization or plan by what is individually seen of its workings. You "contact men" of the Health Service have thus a heavy responsibility—for, the whole health service of the Islands will, in the minds of the people you have in your charge, be directly judged by your acts.

Because you are so important in the general scheme for health work, I am going to take the liberty of offering at this time some suggestions to you that may have material influence on your success as agents of the Government. The years of an older man, like myself, must bring experience, and for three different periods during the past twenty-two years I have personally been directly associated with the Philippine health work which you are taking up. We older men feel that as the burdens fall on the shoulders of you younger men in constantly increasing proportion, you should start in your future work with whatever benefit and advice may be derived from the experiences of the past. And I cannot forbear mentioning the very admirable services of many of these older men, your predecessors, for the brave and effective way in which they have fought and controlled disease in the past.

You yourselves will never be called upon to fight such terrible epidemics of cholera, plague, smallpox, and other diseases as have ravaged these Islands in the past, because of the labors of those who have gone before and made these tremendous tragedies practically impossible of repetition.

Your recent training has taught you the reasons for doing technical things and the best ways for doing them. These matters need not here be touched upon. But there are certain non-technical matters, which are intimately connected with the application of your professional knowledge, that are well worth calling your attention to. You already know and apply many of them, yet they will bear repeating.

In passing upon your acts, your communities will judge you from the standpoint of correctness of procedure. This is both a legal and scientific matter. I urge you to familiarize yourselves promptly and thoroughly with all health laws and local health ordinances. They are a good outline of what you are to do.

Also they are the basis of your authority, and you should be able to quote them in its support.

But leave the enforcement of such laws to the police and courts. If you find it necessary to have the law enforced, draw up and file your complaint, and leave the defendant to settle the matter with the duly constituted authorities. It is to the advantage of the health work and yourselves never to arouse or increase any personal antagonisms where not necessary. If you file your complaint and furnish the necessary evidence to the police and courts, you have done everything that a sanitary inspector should do in the matter.

But recourse to the law is needed only in a few refractory cases. Most people are intelligent and reasonable, and are quite anxious to comply with any requirements that can be shown to be for their own welfare and advantage. Here is where your superior technical knowledge comes into play. If you will explain, in simple and clear language, why such a sanitary requirement is necessary and advantageous to the individual and the community, you will find that opposition or indifference nearly always turns to support. More, every person you so instruct will pass on his knowledge, in whole or in part, to others, making your future tasks by so much easier.

I also urge you to establish close personal relations with the members of the community under your charge. People who like you and trust you, will much more readily accept and act upon your advice. It is particularly important that you maintain close and cordial relations with the local officials of other branches of the Government, for, it is to them that you must look for the necessary health laws, the enforcement of such laws, and the support that each public servant needs from all other public servants.

Your relations with the local doctors, pharmacists, teachers, and other leaders of public opinion should be particularly close. They can throw a vast amount of public support to help along your work, and make your own tasks by so much the lighter.

In your all relations with the people, keep out of any local disagreements or quarrels. People will frequently try to induce you to take sides. Don't do it. You are Government officials, and your efficiency, and the results you can accomplish, largely depend upon maintaining the support of all without arousing the antagonisms of any.

Besides getting acquainted with the people you should make a study of local conditions and customs. Your plans, methods, and results will often be materially modified by them. Use your knowledge of such conditions and customs to determine what special difficulties you are called upon to meet, and the best way to secure the aid of public opinion in removing them. Do not be too abrupt in trying to break down old customs. People believe in them or they would not use them. Don't pay as much attention to the undersirable customs themselves as to changing the state of mind which is responsible for them. Use education, explanation, and—above all—patience. No man can think one way and act in another. If you can make a man accept a new line of thought, you need not worry about his act—for the act will automatically express the thought entertained. Oppose superstition and wrong ideas, but do it impersonally and with courtesy, consideration, and charity for the feelings of others.

Your personal appearance will have much to do with your success. You should at all times be clean, neat, and well cared for in person, with clean hands and finger nails. A sanitary inspector who is himself slovenly can scarcely expect anything better in others. You will wear the uniform of an honorable service. This uniform makes you a marked man, and imposes obligations of fine conduct as well as appearance. Take care that your acts, both public and private, always reflect credit on your uniform. Public opinion expects that its officials in uniform shall set especially high standards.

You should of course maintain scrupulous cleanliness and neatness of your office and your home surroundings. The most convincing teaching is by example. You must yourselves apply everything, and more, that you expect of others. Everything pertaining to you and your work should be an object lesson in high sanitary standards. Do your utmost to make all Government buildings and premises models of neatness and sanitation. Too many of them fall far short of proper standards in these respects. How can private citizens be expected to conform to proper standards if the Govenrment itself does not maintain them?

Your paper work and reports should be kept up to date and forwarded promptly. That all statements should be complete, absolutely accurate, and reliable scarcely need be mentioned. The whole plans and work of the great insular health organization are based on the statistics of which your reports form part. With statistics which are unreliable, conducting the Health Service is like trying to navigate a ship at sea by means of false and misleading charts. The terrible smallpox death rate of a few years ago could have occurred only through a false sense of security dependent on misleading reports as to vaccinations.

As to the energy with which you should carry out your work, I shall say nothing other than that you should be industrious. Make every moment during your official hours count for some good. Equally, I believe that when working hours are over, you should put your official responsibilities out of your mind, enjoy yourselves, and play hard. Incidentally, it is during your "off time" that you will make many of the friends whose support you will need in business hours.

Systematize your work. In your office, have a place for everything, and everything in its place. Systematize your hours of duty, so that you can do the most good in your allotted period of work. It is astonishing how much can be accomplished in the time saved by systematically distributing your duties.

In making your recommendations for improvements, it is a good plan to suggest the most simple and economical measures. Many people are poor and cannot afford much of a money outlay. Fortunately, most of the simple basic sanitary improvements do not cost money. All they need is a little extra effort on the part of the family, and necessary labor that you can justly insist upon being given even by the poorest of families. An Antipolo system composed of a covered pit with connections of bamboo, costing nothing for materials, will retain and render harmless the germs of the intestinal diseases quite as effectively as the most expensive apparatus made of metal and concrete. It may not last as long, but when it falls into poor condition it is easy to build another. Reasonable sanitation is within the financial reach of even the poorest people.

Make your inspections helpful and not merely one of criticism. It is perfectly possible to bring about correction without arousing antagonism. If you have to find fault, do it in a way not to hurt one's feelings. And never point out a defect without suggesting a practical way of remedying it. Often you can arouse a feeling of emulation by explaining how a neighbor down the street has solved the problem. You thus stimulate competition in the one while you compliment—and make a friend—of the other. Your household visits will be welcomed by the people when they realize that you come, not to make trouble, but to help them all you can.

Never forget that the extent of your sanitary accomplishments, and your value to the Government, depends upon the force of public opinion behind you. It is of little use to have sanitary laws if the people are not willing to carry them out in the spirit in which they are written. By your own personal efforts you can accomplish but little. So endeavor to arouse and maintain a spirit of real coöperation by others in your work, so that your energies will not be used up in trying to drive the unwilling, but rather to lead a community that desires to be helpful to you and the cause of health.

In your efforts to bring about better results, use fairness, firmness, and consideration. Don't let any one think that you are enforcing requirements in his case in a way that could be construed as a personal injustice. Don't be hasty. Once you have made up your mind as to what should be done, stick to it. But while sticking to it, be perfectly willing to listen to and accept new facts which may alter your first conclusions. And use consideration in your requirements. Don't demand something that the individual can scarcely carry out, or put on such a short time limit as to add an unnecessary burden to the requirement. Give a reasonable time and extend it if it seems warranted—but be firm about the ultimate accomplishment of your reasonable requirements. I can think of no rule better in this connection than the good old Golden Rule—"Do as you would be done by."

Your recent education has given you the knowledge necessary to practice your calling. The Health Service furnished the equipment and prescribes the general measures under which your education and physical agencies shall be employed. But that is not enough. The degree of your success or failure depends upon the manner in which you utilize your education and facilities. Manner is a factor of the greatest importance. I remember a little rhyme running:

> "It isn't so much what you do or say,
> As the manner in which you do or say it.
> What would the egg amount to, pray,
> If the hen flew up on the perch to lay it."

By this I mean that you can destroy the effect of your well thought out plans and honest work by an unpleasant way of putting them into effect. An overbearing manner on your part may arouse such personal feeling against you that the other person loses sight of the justice of your original requirement, and opposes your whole proposition as one way of expressing resentment against you personally.

One of the very attractive virtues of the Filipino people is their natural courtesy. Always be courteous in your dealings with others, for, courtesy is the great lubricant in human contacts and relations. Never allow a public matter to become personal. Say what you have to say with a smile. A person who smiles can tell many wholesome and perhaps unpleasant truths without arousing resentment. The smile is evidence that you wish another well, even though you may have a disagreeable duty to perform.

* * * * * * *

Besides your purely health work, it seems to me that you have still another mission to perform. I refer to the economic condition of the people. In your house visitation, you have many opportunities to talk intimately with many persons. I hope that you will never lose an opportunity to urge the practice of greater industry and greater thrift. These may not at first seem to have direct connection with health work—yet they do in fact. For example, we can never hope to reduce tuberculosis to any great extent until the people earn enough to provide a better diet. We can never hope for permanent sanitary improvements like public water supplies and latrines until the people increase their incomes to a point where they have the money to buy such utilities.

The Filipino people pay the least taxes of any organized government in the world. They pay the insular revenues but an average of ₱6.57 per annum for each man, woman, and child in the Islands. For less than 2 centavos a day, they have the benefits of stable government, with such things as courts, roads, postal service, security of life and property through the Constabulary, education, protection of health, and the maintenance of hospitals. The total fund available for health amounts to but 41 centavos per person per year. Think what the health service could do for human betterment if its funds were doubled, or even if it was increased by as little as one *peseta* per person per year. One *peseta* per person per year would provide more than ₱2,000,000, which would support a well-equipped modern hospital in every province in the Islands. It would put in water supplies, public latrines, and other sanitary facilities at a much more rapid rate than at present. I think you will agree that to add a reasonable amount to present taxation would mean no hardship to the people of the Philippines, and would tremendously promote their physical and material advancement. It would mean working only a little longer or a little harder. Think this over, and see if you do not feel that you should be preachers of greater industry and thrift, as well as missionaries in the cause of health.

It seems to me that you can conscientiously take upon yourselves a share in any good work which has for its purpose the uplift of the people. I think that you can even properly take a part in politics—not the party politics which favors the interests of the few but the broad policies upon which depend the welfare of the people as a whole.

* * * * * * *

Again I congratulate you, and wish you all success in your own lives and in your work for the welfare of humanity.

EPIDEMIC ENCEPHALITIS IN ZAMBOANGA

By Dr. E. D. AGUILAR, *Medical Inspector, P. H. S.*

AND

Dr. P. A. RODRIGUEZ, *Senior Surgeon, P. H. S.*

HISTORICAL DATA

The first account of epidemic encephalitis lethargica is rather vague. According to medical literature, it is not a new disease. While it has been described by the early writers under different names, such as "Nona," "Schlafkranckheit," "Coma sommolentu," "Soporisite," "Influenza Encephalitis," etc., it was not definitely known until Von Economo in 1917 gave an account of the outbreak of encephalitis lethargica in Vienna. This disease, according to Kaiser-Peterson, had been observed in Europe following several epidemics of influenza during 1580 and 1833. It reappeared in Central Europe after the pandemic of influenza during 1889 and 1890. It occurred again in Central Europe during 1917, in France and Great Britain during 1917–1918, and in the United States and the Philippines during the later part of 1918, and the early part of 1919. It made its appearance again in Manila toward the end of 1922 and the early part of 1923.

CHRONOLOGICAL OCCURRENCE OF CASES

Case	Date reported	Probable date of onset	Places
1st	**February 14**	**February 13**	**Tumaga.**
2nd	**February 23**	**February 12**	**San Jose (Gusú).**
3rd	do.	**February 15**	**Tetuan.**
4th	**February 27**	**February 27**	**City (Madrid Street).**
5th	**March 4**	**March 1**	**Pasonanca.**
6th	**March 12**	**February 1**	**Canelar.**
7th	**March 13**	**March 11**	**Baliwasan.**
8th	**March 14**	do.	**Tetuan.**
9th	**March 23**	**March 16**	**City (Magay Street).**
10th	**March 27**	**March 17**	**City (San Jose Street).**
11th	**March 31**	**March 30**	**City (Jovellar Street).**
12th	do	**March 21**	**Cabaluay.**
13th	**April 2**	**March 20**	**Malangas.**
14th	do.	**March 23**	**Calarian.**
15th	**April 4**	**April 1**	**Tetuan.**
16th	**April 11**	**April 11**	**Isabela.**
17th	**April 17**	**April 10**	**San Roque.**
18th	**April 29**	**Passenger on steamer *Luzon* from Iloilo.**	

It will be noted from the foregoing table that the cases were widely distributed in different places in Zamboanga. It will be observed that none of the case studied came from the same vicinity, except in two instances; but the residences of these cases, in the barrio of Tetuan and in the City of Zamboanga, are far apart. There were also no two cases registered in the same house.

CLINICAL HISTORY

Sex.—In the group of thirteen patients, which form the basis of the clinical data of this report, there were eight males and five females.

Age.—Five of these patients were between the ages of 9 and 15; two, between 15 and 20 years; four, between the ages of 21 and 25; and two, between 30 and 63 years.

Occupation.—Of the thirteen cases there were six students, one teacher, one clerk, three laborers, one farmer, and one housewife.

Nationality.—There were twelve Filipinos and one American.

Season.—Five of these patients became ill in February, seven in March, and one in April. At that time the climate in Zamboanga was very hot during the day and very cold at night.

History of influenza.—As far as we can ascertain, only four of the thirteen patients had a recent attack of influenza. The majority, however, show in their history that they had the disease during the last epidemic in 1918.

Symptomatology.—Of the thirteen patients, 8 (or 61 per cent) of the cases gave a history of gradual onset, while 5 (or 39 per cent) had the onset sudden in nature. This fact coincides quite closely with the findings of A. G. Hall in his studies of the disease in England which show that 69 per cent of the cases were of gradual onset, and 31 per cent of sudden onset.

The earliest symptom noticed by many of the patients were blurred vision, headache, and insomnia. These are usually observed during the few days before the onset and many persist for sometime in the early part of the disease.

Some of the cases began with muscular pain in different parts of the body, followed by irregular involuntary movements of the extremities which vary from simple tremors to marked twitching of the body and extremities; while other cases complained of drowsiness which vary from a mere desire to sleep to a profound stupor. The patients in the latter state could be aroused only by loud talking.

Fever was the most constant of all the symptoms. It was present in all of the cases. Headache was present in four of the cases. Insomnia was complained of by 8 (or 61 per cent) of the patients in the early stage of the disease. Muscular pains were noted in six of the thirteen cases. In two instances, the pain was so severe that the patients became restless, tossed in bed, and screamed whenever the pain came. Asthenia, which was out of proportion to temperature and the relative severity of the symptoms, was observed in 10 instances (or 76 per cent of the cases).

Constipation, obstinate in character, was found in 9 patients (or 69 per cent of the cases). As a rule, appetite was not impaired in the early stage of the disease. It was, however, lost in five patients. Recurrent dull aching pain in the epigastrium was complained of by four patients during the early stage of the disease. Involuntary bowel movements were noted in one patient. There was neither diarrhea nor vomiting observed. One patient developed intestinal hemorrhage.

Incontinence of urine was observed in two cases and urinary retention in one case. Scanty urination was noted in two patients. One case gave a history of having voided urine only twice in 24 hours and the amount was scanty. However, these symptoms, if they ever occur, last only from two to three days.

Dimness of vision was present in 8 instances (or 61 per cent of the cases). The usual history was a difficulty in recognizing persons or objects. One of the chief complaints of the first case under observation was the blurring of vision. This case was thought to be one of optic neuritis, but the fundus was apparently normal. Diplopia was observed in 4 patients (or 30 per cent of the thirteen cases). Smith, in the analysis of his cases in the United States, note diplopia in 83 per cent of the 122 cases. Strabismus was found in 3 (or 23 per cent) of the patients. Nystagmus was observed in 2 (or 15 per cent) of the cases. Photophobia was present in 7 (or 53 per cent of the cases.)

Speech in 7 (or 53 per cent) of the cases was slow, deliberate and monotonous in character. In 4 (or 30 per cent) of the cases the sentences were uttered very slowly and words slured into one another. In the majority of the cases, the voice became nasal an monotonous ("utál") so that they were often unintelligible. In some of the cases, however, the speech was clear and intelligible throughout the disease.

The mental condition in the majority of the cases was apparently clear, whereas in some cases it was confusing at times. In three instances the mental condition was so depressed that melancholia was suspected. One patient was always worried of his condition. In two cases, the patients were highly emotional and irritable with the apparent symptoms of hysteria. Nocturnal delirium was present in two cases. The patients in the latter condition were always sleeping during the day and wandering around the ward at night.

Dysphagia was noted in one case. At first the difficulty in swallowing was only slight, but later it became so marked that it required rectal feeding.

PHYSICAL FINDINGS

Practically all of the patients show a typhically immobile, expressionless face like a mask. The staring look, resembling that of a waxen image, is highly characteristic of many of the cases. General weakness, which is out of proportion to the severity of symptoms, is generally observed.

Tongues are thickly coated in all cases. The lungs and heart are normal. The liver and spleen are apparently negative.

The pupils in 7 (or 53 per cent) of the thirteen patients are equally dilated and do not react to light and distance. Six (or 46 per cent) of the cases showed sluggish reaction to light and accommodation. These are unequal in no case.

Ptosis is the commonest manifestation of the facial nerve paralysis. In 8 (or 61 per cent) of the cases in which ptosis is noted, 6 (or 54 per cent) are bilateral, and 1 (or 8 per cent) is unilateral. In intensity, it varies from simple weakness of the lids to a complete ptosis. In type, it is generally bilateral; but in some instances it is unilateral.

The respiration without exertion in some of these patients is panting in character. Dyspnea is present in two cases. This fact is particularly observed in the myoclonic type. An involuntary jerking movement of one upper extremity, synchronous with the respiration, is noted in two cases.

Temporary rigidity or stiffness of the neck is observed in four cases. Marked rigidity of the extremities is noted in one case. These symptoms appear in the latter stage and during early convalescence.

Choreic movements are present in three cases. In two of them, the movements are not unlike those of Huntington's chorea in its early stage. Four cases show fribrillary tremors of the tongues. One has involuntary tremors of the lips and five show spontaneous tremors of the hands and legs. An irregular spasmodic contraction of the abdominal muscles is observed in three cases. In the majority of the cases, these tremors are marked and are noted in the early stage of the disease. Bilateral facial weakness is observed in four patients. As the result of this paralysis, the face assumes a peculiar expression often described as mask-like. This condition is the result of the involvement of the facial nerve. The drooping of the feet and hands with fribrillary tremors of the whole body is observed in two cases. The apparent paralysis of the inferior recti muscles of the eyeballs is observed in two cases.

Quite profuse sweating is noted in three patients. Skin eruptions, which vary from papules to pustules and are frequently present at the root of the hair on the abdomen and legs, are present in three cases. In one case the eruptions are generalized, while in two other cases they are present only on the elbows, hands, and forehead. The pustules vary in size from that of a pinhead to about that of a walnut and contain white purulent material. Edema of one leg and elbows of both sides is noted in one patient.

The superficial reflexes are disturbed in nine cases. In eight patients, the knee reflexes are exaggerated during the early stage of the disease. This affection is unilateral in one case. Two patients show marked abdominal and cremasteric reflexes on both sides. Babinsky's, ankle clonous, and tendon reflexes are negative in all the cases.

TYPES OF THE DISEASE

None of the cases under observation can be classified as purely of one type. As a rule, a case starts myoclonic or choreic in type and later becomes lethargic or vice versa. However, for convenience, the case are grouped according to the predominance of certain signs and symptoms. Out of the thirteen cases, six are of lethargic type, four myoclonic, three choreic; but there are no meningeal or other types.

USUAL COURSE

The fever, which is always present at the beginning, oscillates between 37.5° C. to 39° C. It usually lasts from six to fourteen days; but in three cases, it continues up to three weeks.

The majority of the patients in the early stage are restless, tossing in bed and unable to sleep. During the middle part of the disease, they are as a rule in a stuporous state altho true sleep is often not obtained. In the latter stage, the patients lie flat like a log, often unable to make any voluntary movement on account of great muscular weakness. The irregular nonrythmic spontaneous movement of the face, trunk, and extremities, observed during the early part, usually lasts from five to seven days; and therefore, lethargy sets in. This torpor may not be present at all, or it may be slight or present but for a few days. On the other hand, it may remain unchanged for a week or more.

In some cases, heaviness of the head, which is experienced early in the disease, persists for a long period. The incoherence of speech noted in some cases may persist throughout the entire acute stage.

LABORATORY FINDINGS ON THE SPINAL FLUID

By Dr. C. Manalang

I. THE SPINAL FLUID

No. of cases	Globulin test	Cell count	Pressure	Wassermann	Remarks
1	—	20	Moderate	....	Predominance of lymphocytes.
1	+	6	.....do	....	Do.
1	+	7	High	....	Do.
1	+	10	Moderate	....	Lymphocytosis.
1	—	16	High	....	Do.
1	+	8	.....do	....	Do.
1	—	10	.....do	....	Do.
1	—	5	Moderate	....	Do.
1	Trace	10	High	....	Do.
1	—	4	Moderate	....	Do.

It will be observed from the foregoing table that the cellular count of the spinal fluid is rather low, and varies from 3 to 20 cubic millimeters in eight cases examined. In five, the pressure is quite high. The predominance of lymphocytosis is noted in all cases. The globulin test was positive in four, and the Wassermann reaction was negative in all the cases.

II. THE BLOOD-PICTURE

No. of cases	White count	Differential count				Red count	Hemoglobin per cent
		Poly	L. Lympo	S. Lympo	Eosin		
1	8,400	63	14	23	....	4,020,000	70
1	9,800	56	7	34	3	4,060,000	90
1	15,400	83	7	2	4	3,920,000	60
1	5,200	80	10	10	....	3,761,000	70
1	18,200	61	17	20	2	4,240,000	60
1	27,200	....	....	....	....	Not made	40
1	26,600	80	10	10	....	3,320,000	40
1	17,600	78	13	14	....	6,060,000	70
1	13,400	74	9	13	8	6,040,000	50
1	27,200	85	5	10	....	Not made	....
1	11,600	89	5	4	1	3,620,000	50
1	7,400	55	29	12	2	4,840,000	90
1	24,600	17	13	10	....	3,960,000	40

The foregoing table shows that there are four cases which show an absolute white count of less than 10,000; five show more than 10,000; and four more than 20,000. There is leucocytosis in eight of the thirteen patients examined. The hemoglobin percentage is rather low. Blood-culture on one patient fails to show the presence of any microörganism.

III. URINARY FINDINGS

Examination	Present		Absent	
	Number of cases	Per cent	Number of cases	Per cent
Albumin	5	38	8	61
Sugar	0	0	13	100
Casts	3	27	10	76
Diazo reaction	Negative.	....	Negative.	0

From the foregoing table it will be noted that 38 per cent of the cases are positive for albumin, while only 27 per cent show positive casts. The diazo reaction was negative in all the cases.

TREATMENT

Following the treatment advised in the "Ars Medici" of Vienna, the cases are divided into three groups. The first group receive intramuscular injection of 2 c.c. of sterilized milk every other day. In the second group, artificial malaria is reproduced from a known positive case. This treatment consists in taking blood from the vein of a patient suffering from tertian malaria and administering it subcutaneously to the patient in question. After 8 to 10 attacks of the fever, which comes after an incubation period of 6 to 30 days, the disease is arrested by the use of quinine. The third group is placed under Bacelli's treatment, which consists of the injection of 1 c.c. of 3 per cent phenol intra-dermically along the spinal column every three hours, with the main object of controlling the irregular involuntary movements of the extremities. This latter treatment is especially given and found useful during the early stage of the disease.

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LETTER OF APPRECIATION[1]

JUNE 28, 1924

To Colonel EDWARD L. MUNSON
Manila

The next few days will see the severance of your official relations with the Insular Health Service, through the operation of the Manchu Law, which makes it imperative for you to return to service in the United States Army. Because of your various details in the Philippine Health Service, first as Assistant Director of Health, then as Chief Health Officer for Mindanao and Sulu, and lastly as Health Adviser to His Excellency, the Governor-General, we have learned to consider you as one of us. We cannot but regret, therefore, to see you go. Your associations with us have always been most cordial, ever marked with the spirit of coöperation and devotion to the cause of public health in the Islands, and to us it has been productive of lasting and practical results. Such suggestions of yours for greater public-health administration remaining unrealized as yet will serve as pointers to us in the future. On the eve of your departure, allow us, therefore, Colonel, to attest with a modest keepsake our appreciation of you. And in leaving, leave us in the confidence that the interests of the Service will hold at all times an uppermost place in your thoughts.

Very respectfully,

(Sgd.) STAFF AND OFFICERS, P. H. S.

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[1] This letter was presented to Colonel Edward L. Munson at the farewell dinner tendered him, and signed by thirty staff and officers of the Philippine Health Service at Mignon Hotel on June 28, 1924.

MARKED DECREASE, IN PHILIPPINE ISLANDS, OF DEATH RATE IN 1923[1]

Before beginning to discuss this topic, it is necessary to define the terms marriage rate, birth rate, general death rate, and infant death rate. By marriage and birth rates are meant the number of marriages and births per 1,000 population. By general death rate is meant the number of deaths per 1,000 population. By infant mortality rate is meant the number of deaths of infants under one year of age per 1,000 births.

It is observed, in terms of population in the whole Philippine Islands, that the marriage rate was higher in 1923 than in 1922. The birth rate showed similar change. On the other hand, the general death rate was remarkably decreasing year by year until 1923, when there occurred 18.34 deaths per 1,000 population as against 25.17 in the average of the last five years. On the whole, the infant mortality rates were, since 1918, decreasing, and in 1923, 147.63 per 1,000 births.

In the City of Manila alone, the marriage and birth rates during 1923 were increased in comparison with those of 1922. The general death rate was lower than that in the average of the past five years, being 26.01 and 29.24, respectively. There was a distinct gain in the number of infants saved, since there was 192.08 infant deaths per 1,000 births as against 344.66 in the average of the past five years.

In the State of New York, there was 21.2 birth rate, 13.0 general death rate, and 72 infant death rate in 1923. In Illinois, there was 19.4 birth rate, 12.0 general death rate, and 82 infant death rate in 1923; and in California, there was 20.9 birth rate, 14.3 general death rate, and 73 infant death rate in 1923. In the United States, the highest general death rate was 20.3 and the lowest 6.5. For the same year the highest infant death rate was 117 and the lowest 51.

The death rate for the Islands last year, which was 18.34 per 1,000 population, may be favorably compared with the death rate of leading countries in public health. The lowest rate is that of Ilocos Sur which was 15.61. Other provinces with low rates were Albay, Cebu, Iloilo, Batangas, Bulacan, Pangasinan, and Rizal.

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[1] Broadcasted at Radio Station 1–AB, July 15, 1924, at 8 p. m.

We may compare our death rate with those of other countries. The general death rate in Japan was 26.8[1]; Chile 27.5[2]; Spain 23.3[3]; Russia 28.9[4]; Egypt 28.4[5]; and Hongkong 219.[6] The infant death rate in Japan was 189[a]; Chile was 286[b]; Spain 184[c]; Russia 243[d]; and Italy 211.[e] From these figures it is evident that the general death and the infant death rates in the Islands are less than in these countries just mentioned.

Health officials attribute the decrease in the death rate to increased efficiency of the health organization, including the local representatives of the public welfare office and other agencies; improved sanitation of populous centers; and increased interest in health education of the masses. If the decrease in our general death rate and infant death rate continue, it may be predicted that it will not be long when we will reach the same rates as those in America and other progressive countries.

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[1] Report 1918. [2] Report 1918. [3] Report 1919. [4] Report 1909. [5] Report 1920.
[a] Report 1918. [b] Report 1914. [c] Report 1918. [d] Report 1908. [e] Report 1917.

CHOLERA AND HOW TO PREVENT IT[1]

Cholera is an acute infectious disease accompanied by violent vomiting and purging of a peculiar rice-water-like fluid, severe muscular cramps, suppression of urine, coldness of the surface of the body, profuse cold perspiration, and collapse.

The essential cause is the comma germ. It is socalled, because it resembles a comma in shape. Anything that irritates the intestines or interferes with the normal condition of the stomach may be a contributing cause.

Cholera germs enter the system by way of the mouth. They may be swallowed with water or with food, or may be conveyed by infected fingers, cups, spoons, or other articles which come in contact with the mouth. Flies may carry the germs from infected dejecta to food or drink. Cholera germs have been found in the dejecta of flies three days after contact with infected stools. Food accidentally infected by handling, and vegetables and fruits which have been sprinkled with infected water or manured with human excreta are frequently the means of spreading the disease. Bear in mind, therefore, that cholera germs live in the stool. Thru careless disposal of excreta, the infection may be transported to our food and drink and in this way we may get the disease.

During an epidemic of cholera great care should be taken to preserve the general health. All excesses, especially of eating or drinking, should be avoided. Alcoholic liquors, by irritating the stomach and bowels, predispose the system to the disease. Strong saline purgatives should not be taken.. Mild laxatives may be taken without danger.

The Philippine Health Service would like to make an appeal to the public for a sincere coöperation. Cholera, being highly contagious, may at any time become an epidemic if we do not take the necessary precaution.

Any person who may happen to know a case of diarrhea and vomiting in his locality should at once report it to the health authorities—a medical officer or a sanitary inspector. In the city, he may directly telephone the health station or the central office of the Philippine Health Service.

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[1] Broadcasted at radio Station No. 1–BA, Plaza Santa Cruz, Manila, on July 31, 1924, at 8 p. m.

The cholera patient should at once be isolated until the necessary measures are taken by the health officers to prevent contagion to the other members of the household. You should avoid visiting any case of diarrhea or vomiting in the neighborhood.

You should all submit to vaccination against cholera. This will not cost you anything. It will protect you for several years from the disease or from a severe attack of the disease. You should all go to any health station for this purpose.

The excreta should be disinfected. In the province, everybody should have a well-constructed and sanitarily kept Antipolo system of toilet.

Boil all drinking water to kill the germs. Artesian well water or distilled water is safe. And, if possible, do not eat anything but cooked food. You should wash your hands before taking your meals. Swat the flies and do not allow them to alight on food and drink. You should be very clean in your habits. Your premises should be cleaned and all rubbish burned.

Consult any medical health officer to find out if you are carrying cholera germs in your intestines. This is essential, because if you have it, suitable measures may be taken so that the disease will not develop.

MISCELLANEOUS

HEALTHMOBILE DEMONSTRATED AT CALAMBA

The healthmobile of the Philippine Health Service was demonstrated at Calamba, Laguna, from June 23–24, 1924, in connection with the town fiesta.

During the first night, films and slides were demonstrated and lectures were given about cholera disease, smallpox vaccination, and the care of babies, which demonstration was attended by about 5,000 persons. During the second night, other films were exhibited and lectures about leper and typhoid fever diseases were given, which demonstration was attended by about 8,000 persons.

DOCTOR VILLAFRANCA BACK

Dr. Rafael Villafranca, chief of the Office of General Inspection of the Philippine Health Service, has returned from inspection. In the Province of Bulacan, he inspected the municipalities of Polo, Meycauayan, Malolos, and Calumpit;, and in Pampanga, San Fernando, Aarayat, Apalit, San Simon, Santa Ana, and Mexico.

DOCTOR PADUA COMMISSIONED CAPTAIN, MEDICAL RESERVE CORPS, U. S. ARMY

Medical Inspector Regino G. Padua of the Philippine Health Service received his commission as Captain of the Medical Reserve Corps of the U. S. Army effective February 15, 1924.

COURSE FOR SANITARY INSPECTORS

Up to date, thirty-one students have enrolled in the Course for Assistant Sanitary Inspectors under the auspices of the Philippine Health Service. These students have been distributed in the different health stations of the City of Manila for their practical work, and later they will take up their practical work at San Lazaro Hospital and at the College of Medicine and Surgery of the University of the Philippines.

The list of students are: Pablo G. Apostol, Francisco Badenas, Jose Buenaventura, Baltazar E. Bernandino, Felix M. Cruz, Pedro Vergel de Dios, Juan P. Flor, Maximo F. Gacula, Demetrio Guzman, Leocadio Garcia, Jose Gabriel, Benito Gatpatan, Graciano Holares, Anacleto Jonson, Apolonio Lazo, Pio M. Mora, Alfonso Marin, Celestino Mallare, Egmidio Patricio, Nemesio Pajarillo, Nicolas Raagas, Enrique B. Reyes, Donato Sabong, Jose Tangco, Juan Umaguing, Jose Yñiguez, Agustin Dilla, Aproniano Fetalino, Mariano Layola, Jose Hontomin, and Roberto Gulinao.

COMMITTEE ON PUBLICATIONS APPOINTED

Effective July 1, 1924, the Committee on Publications of the Philippine Health Service, shall be comprised of the following personnel:

S. V. del Rosario, M.D., *Chairman.*
J. P. Bantug, M.D., *Member.*
L. Lopez-Rizal, M.D., *Member*
S. Y. Orosa, M.D., *Member.*
T. Corpus, M.D., *Member.*
R. G. Padua, M.D., *Member and Secretary.*

This Committee will be responsible for the editing and publication of the Monthly Bulletin, Annual Report, and important publications to be stamped in the name of the Philippine Health Service or others that may be directed by the Director of Health from time to time. This Committee will meet at the call of the chairman.

NEW ASSIGNMENTS

Assistant Surgeon Hilary P. Clapp has been directed to report to the District Health Officer of Mountain Province for duties of resident physician of the Bontoc Hospital, relieving Assistant Surgeon Rafael Jagunap.

Assistant Surgeon Rafael Jagunap has been directed to proceed to Kiangan, Ifugao, to assume the duties of sub-district health officer thereat, relieving Surgeon Francisco Gomez.

Surgeon Francisco Gomez has been directed to proceed to Manila for new assignment.

Senior Medical Inspector Manuel Ma. Aycardo has been relieved from further duties of district health officer of Batangas, and directed to proceed to Iloilo to assume the duties of district health officer thereat, relieving Senior Medical Inspector Victorino de los Santos. Doctor Aycardo shall transfer his office and property responsiblities to Dr. Exequiel Castillo, president, Fourth Sanitary Division of Batangas, who has been assigned as acting district health officer, in addition to his other duties, until the regular incumbent arrives.

Senior Medical Inspector Victorino de los Santos has been directed to Batangas to assume the duties of district health officer thereat, relieving Dr. Exequiel Castillo who shall resume his former duties.

Surgeon Pablo Hamoy, resident physician, Lanao Public Hospital, has been directed to assume the duties of acting district health officer of Lanao, in addition to his other duties, relieving Medical Inspector Julian Pilares.

Medical Inspector Julian Pilares has been directed to proceed to Jolo, Sulu, to assume the duties of district health officer thereat, relieving Assistant Surgeon Benito Pan̄ganiban, who shall resume his former duties of resident phyisician of Sulu Public Hospital and Municipal Health Officer of Jolo.

Medical Inspector Jose Vidal has been directed to proceed to Sorsogon, Sorsogon, to assume the duties of the district health officer thereat, relieving Surgeon Francisco Velez, who has been directed to proceed to Manila for new assignment.

CHOLERA SITUATION IN BATANGAS AND LAGUNA

Senior Medical Inspector Pacifico Laygo, assistant chief of the Division of Provincial Sanitation of the Philippine Health Service, arrived on July 2, 1924, from inspection in Batangas and Laguna. He reports that five suspects were reported at Lipa, Batangas, from June 25 to July 1, four of which turned out negative by laboratory test, the last one of July 1, is still undiagnosed by laboratory. Suspect cases have occurred also in the municipalities of Rosario, San Jose, and Talisay, all of which turned out negative by laboratory test. All possible measures to prevent cholera infections are being taken in Batangas Province, and the danger of an extensive outbreak is quite remote.

Doctor Laygo also reports that suspect cases occurred in the municipalities of Alaminos, Bay, Cabuyao, and Santa Cruz, all of which turned out negative by laboratory test in the Bureau of Science. The situation in Laguna is of no immediate concern.

DOCTOR MANALANG ASSIGNED FOR ANOTHER SURVEY

Dr. Cristobal Manalang, bacteriologist of the Philippine Health Service, has reported at the central office from yaws and cholera survey in Cagayan and Ilocos Provinces, after which he has been directed to proceed to Batangas to make survey of the cholera situation thereat, giving preferential attention to the place where suspects have been reported. He shall render report of his findings to the Director of Health.

ASSISTANT SANITARY INSPECTORS BACK FROM ANTIPOLO

Assistant Sanitary Inspectors Perfecto Ortega, Arsenio de los Reyes, Alfredo Camacho, Cecilio Martinez, and Pablo Galang have returned from special detail at Antipolo, Rizal, and have been directed to report to their respective medical officers of health stations, City of Manila, to resume their former duties.

DOCTOR PEÑABELLA SUPERVISING SURGEON OF MISAMIS PUBLIC HOSPITAL

Surgeon Domingo Peñabella, district health officer of Misamis, has been designated, in addition to his other duties, as supervising surgeon of Misamis Public Hospital.

DOCTOR MANALANG OFF FOR TAYABAS AND LAGUNA

Dr. Cristobal Manalang, bacteriologist of the Philippine Health Service, has recently returned from cholera survey in Batangas, and he has now been directed to Tayabas and Laguna to make a similar survey in these two provinces.

DOCTORS INTENGAN AND JOVEN OFF FOR BATANGAS

District Inspector Gabriel Intengan, of the Philippine Health Service, has been directed to supervise the cholera campaign in Batangas. Senior Surgeon Pedro Joven, in charge of smallpox vaccination, has left for Batangas to inspect the work of vaccination there.

MOSQUITO WORK FOR THE MONTH OF JUNE

Number of houses where breeding places were found	889
Number of breeding places found in houses	674
Number of drains ordered cleaned	200
Number of breeding places oiled in private premises	15,536
Number of breeding places oiled in public properties	12,728

FLY WORK FOR THE MONTH OF JUNE

Number of stables inspected	852
Number of stables ordered cleaned	149
Number of stables cleaned	703

ANTI-PLAGUE WORK IN MANILA FOR JUNE

Number of rats caught by spring traps	2,634
Number of rats found poisoned	505
Number of rats killed by clubs and other weapons	1,324
Number of rats found dead from other causes	708
Number of rats caught and sent to Bureau of Science for examination	5,174

INCIDENT AT CINE IDEAL

About 3.50 p. m. yesterday afternoon (July 8, 1924), during the cine performance, an old woman, for some reason or other, fell unconscious. Dr. Bartolome Reyes, of the Philippine Health Service, happened to be at the scene at the time. He immediately applied on her first aid medical treatment, and after a while the old women became conscious and was able to leave the cine perfectly well.

MALARIA CAMPAIGN IN PAMPANGA

Sanitary Engineer W. D. Tiedeman, of the Rockefeller Foundation, in charge of malaria campaign working in Pampanga in coöperation with the Philippine Health Service, reports that for the month of June the work of applying larvacide weekly to all breeding places in the urban portions of Floridablanca and Porac has been started. There remain a great deal to be done in developing efficient workmen and equipping them properly. It looks at present as though the work can be accomplished successfully.

Mr. Tiedeman also reports that the engineers and inspectors in training are doing fairly well and are at present out on short field assignments in Pangasinan and Ilocos Norte.

MONTHLY REPORT OF SANITARY ENGINEER

Mr. Manuel Mañosa, chief of the Division of Sanitary Engineering of the Philippine Health Service, reports that for the month of June 90 permits for strong material plans, 95 minor building constructions, and 126 light and mixed material constructions were approved, and 21 permits for minor building constructions and 28 light and mixed material constructions were disapproved.

DOCTOR MANALANG BACK

Dr. Cristobal Manalang, bacteriologist of the Philippine Health Service, has returned today (July 12, 1924) from a cholera survey in Laguna. He will return to Zamboanga sometime this week.

DOCTOR JOVEN BACK

Senior Surgeon Pedro Joven, in charge of smallpox vaccination of the Philippine Health Service, returned on July 11, 1924, from Batangas after inspecting smallpox vaccination there.

DOCTOR PASCUAL ENTERED PHILIPPINE HEALTH SERVICE

Dr. Anicio Pascual, of Macabebe, Pampanga, has been appointed president of the Third Sanitary Division of La Union, relieving Dr. Jose Victoriano.

TYPHOID COMMITTEE APPOINTED

Senior Medical Inspector Leoncio Lopez-Rizal, Medical Inspector Regino G. Padua, Senior Surgeon Manuel V. Arguelles, Surgeon Francisco Gomez, and Assistant Surgeon Leopoldo Pardo were appointed to form a committee to investigate the typhoid situation in Manila. Dr. G. R. Lacy, of the Bureau of Science, and Col. J. F. Siler, of the Army Research Board, to aid and advise with the Committee with special reference to the Laboratory phase of the investigation.

NURSE WANTED

A graduate male nurse is wanted to occupy the Thirteenth Sanitary Division of Samar, comprising the municipalities of Taft, Dolores, and Oras. This gives a salary of ₱780 per annum.

Any applicant who has the required qualification may please call at the office of the executive officer of the Philippine Health Service, Santa Potenciana Building, Intramuros, for further information.

DOCTOR INTENGAN BACK

District Inspector Gabriel Intengan, of the Philippine Health Service, returned to Manila last week after supervising the cholera work in Batangas.

HEALTH LECTURE TO BE BROADCASTED

On July 15, 1924, at 8 p. m. health lecture, entitled "A Marked Decrease in the Philippine Islands Death Rate in 1923" will be broadcasted. The lecture will be given at Radio Station placed at the disposal of the Philippine Health Service, thru the kindness of Mr. Henry Herman of the Electrical Supply Co., Plaza Santa Cruz, Manila. The people in places having radio stations and those having radio receiving apparatus in their homes are requested to listen to the lecture.

AMBULANCE TO BE SENT TO PROVINCES TO COLLECT LEPERS

The ambulance personnel of the Philippine Health Service, together with the ambulance, will be directed to collect lepers in Pangasinan, Tarlac, Nueva Ecija, and Bulacan on July 18, 1924. A total of eleven lepers will be ready for collection in these provinces.

DOCTOR GONZALES-SIOCO IN MANILA FOR CONFERENCES

Dr. Fernando Gonzales-Sioco, district health officer of Pampanga, came to Manila on July 15, 1924, to confer with the acting chief of the Division of Hospitals, Laboratories, and Dispensaries about hospital fees and rules and regulations of hospitals, and with the chief of the division of Provincial Sanitation relative to administrative matters of his disrict. He returned on the same day.

DOCTOR REYES IN MANILA

Dr. Bartolome Reyes, provincial dentist of Bulacan, came to Manila on July 16, 1924, on official business. He returned to Bulacan on the same day.

DIRECTOR OF HEALTH REQUESTS COOPERATION OF HOSPITALS

In order to safeguard public health, the Director of Health requests the coöperation of all hospitals of the City of Manila to secure the exact address—street and house number, sitio, barrio, municipality, and province—of all provincial patients suffering from dangerous communicable diseases that are treated and isolated in their respective hospitals, so that when these cases are reported and referred to provincial health officers, the same could be found very easily, and precautionary measures may be instituted without delay if such are needed.

DIRECTOR OF HEALTH ISSUES CIRCULAR TO HEALTH OFFICERS ABOUT RADIO LECTURE

In the bimonthly health lecture by radio given at Radio Station No. BA, through the kindness of the Electrical Supply Company, Inc., Plaza Santa Cruz, Manila, the Director of Health issues circulars to all district health officers and presidents of Sanitary Divisions in places where there are radio stations, with the request to give the radio health lecture as much publicity as possible among the public and to interest them on the matter. In this way and through educational campaign, success of public-health work can be attained.

SCHOOLS UNDER THE RED CROSS

The school inspection under the same supervision and direct charge of school physicians of the following schools have been assigned to Red Cross nurses:

1. Santa Cruz Primary School with one branch.
2. Mabini Intermediate School with one branch.
3. Santa Clara Primary School.
4. Zurbaran Elementary School with two branches.
5. Bonifacio Primary School with two branches.
6. Tayabas Elementary School.
7. Lico Primary School.

AN EXTENDED LEPER COLLECTION

The Philippine Health Service plans to have an extended leper collection throughout the whole Archipelago by the middle of August. The most important points to be included in this trip are the northern and southern provinces of Luzon and the Visayan Islands. Lepers from the central provinces will be concentrated in nearby ports where they will be taken by a leper boat.

NO CHOLERA IN BATAAN

In the La Vanguardia issue of July 17, 1924, suspected cases of cholera were reported to have occurred in the Province of Bataan. This report is erroneous. No cases nor suspected cases of cholera have occurred in this province.

REPORT OF THE CHIEF, CULION LEPER COLONY

Dr. Jose Avellana Basa, chief of the Culion Leper Colony, reports that for the month of June, there is a total of 5,166 lepers in the colony, of whom 4 are Americans; 1 European; 14 Chamorros; 17 Chinese; 2 Japanese; and 5,128 Filipinos.

There are 2,524 males and 1,340 females of whom 804 are boys and 498 girls. There are 1,205 single, 2,383 married, and 276 widowed.

Ten negative lepers arrived at Manila on the steamer *Corregidor* on July 20, 1924, two of whom are girls born in the colony.

SEVENTH GRADE SCHOOL INAUGURATED IN CULION LEPER COLONY

The chief of the Culion Leper Colony reports that on July 14, 1924, the seventh grade was inaugurated in the Intermediate School of the Colony. This was made possible thru the interest of the division superintendent of schools of the Province of Palawan and largely to the efforts and valuable support made by the Philippine Anti-Leprosy Society that donated the school supplies for said class.

The enrolment of this year is about 24. The books donated are 30 sets.

AL PÚBLICO

Su Excelencia, el Gobernador General, ha endosado a la Oficina de Sanidad una carta firmada por un tal M. Legaspi, en la que dicho señor pone en conocimiento de Su Excelencia el hecho de que existen en la capital varios "Agentes de Negocios" (?) que exigen la cantidad de tres pesos a los dueños de tiendas de "sari-sari" prometiéndoles con ello librarles de la vacunación anti-tífica que la Oficina de Sanidad exige a todas las personas que estén empleadas en algún negocio que tenga relación con la venta y preparación de alimentos y bebidas.

La Oficina de Sanidad quiere llamar la atención al público en general que tal proceder constituye una verdadera estafa, pues dicha Oficina de Sanidad no cobra ni un centavo por la aplicación de la inyección profiláctica contra la fiebre tifoidea ni puede dispensarse a ninguna persona empleada en negocios que tengan relación con la salud pública el no ser vacunada contra dicha enfermedad.

La vacunación contra la fiebre tifoidea no debe considerarse por el público como una molestia a que se le somete sino como una medida previsora que se aplica gratis a fin de que el menor número posible de personas sufra de una enfermedad tan grave y peligrosa como es la fiebre tifoidea, que mata al 40 por ciento de las personas que ataca sino están protegidas por la vacunación; y a las que no mata las obliga a estar en cama por lo menos cuatro semanas durante las cuales el enfermo nada produce sino que por el contrario exige improvistos y excesivos gastos.

Si el público supiere de algún empleado de la Sanidad que se haga cómplice del criminal proceder denunciado por el Sr. Legaspi, haría un gran servicio denunciándoles para aplicarles el condigno castigo.

Por lo demás los dueños de las tiendas de "sari-sari" no necesitan la intervención de ningún agente para conseguir el permiso necesario pues los oficiales en las estaciones sanitarias tienen estrictas órdenes y por su natural proceder siempre atienden con solicitud, desinterés y protitud a cualquier persona que a ellos acuda para cualquier asunto relacionado con el cumplimiento de sus deberes.

QUANTITY OF CARBON TETRACHLORIDE DISTRIBUTED

A total of 423½ liters of carbon tetrachloride for the treatment of hookworm was distributed in Manila and in the provinces by the Philippine Health Service in 1923. Most of this drug was used in the Province of Cebu in the hookworm campaign there. The Philippine Health Service still has in stock 3,184 liters of this drug to last for nine years.

NEOSALVARSAN DISTRIBUTED

For the yaws campaign and venereal diseases, there were distributed 461 ampoules of neosalvarsan in Manila and in the provinces in 1923; and a total of 6,430 ampoules of the same drug from January to June, 1924, was distributed mostly in the provinces, among which are Surigao, Sulu, Mountain Province, Agusan, Albay, Bulacan, Cotabato, Ilocos Norte, and Zamboanga.

DISTRIBUTION OF ASSORTED VACCINES AND SERA

Dr. Bonifacio Mencias, acting chief of the Office of Property of the Philippine Health Service, reports that for the month of June, 1924, the following vaccines and sera have been distributed in Manila and in the provinces: anti-diphtheritic sera, 380,000 units; anti-tetanic serum, 309,000 units; anti-dysenteric serum, 147 ampoules; cholera vaccine, 27,100 cc.; vaccine virus fresh, 273,800 units; and dried vaccine virus, 39,300 units. This cost ₱29,888.

A LETTER OF APPRECIATION

The following letter has been received by the Director of Health from Mr. Jose Paez, general manager of the Manila Railroad Company:

"I have been informed by Dr. Rafael Bertol, principal physician of this Company, that Dr. Fernando B. Duran, president of the Sanitary Division at Donsol, Sorsogon, who was a passenger on the Bicol Express on July 19th, rendered great assistance to Doctor Bertol in connection with the birth of a child which took place in the train on its way to Manila. On behalf of Doctor Bertol and this Company, I wish to express my thanks for the timely assistance rendered by Doctor Duran."

CIVIL-SERVICE NURSE EXAMINATION

There will be civil-service nurse examination for entrance in the Philippine Health Service on September 5–6, 1924. All temporary nurses already in the employ of the Service are instructed to enter this examination with a view to qualify themselves for regular appointment. All other informations may be obtained from the Bureau of Civil Service.

YAWS CAMPAIGN IN RIZAL

Dr. Florentino Ampil, district health officer of Rizal, reports that from January to April, 1924, a total of 193 patients suffering from yaws received neosalvarsan treatment in his district. Of these persons, 100 are males and 93 females, 100 children and 93 adults. A total of 22 persons were completely cured and 171 improved.

The yaws campaign was undertaken in the municipalities of Parañaque, Binangonan, Las Piñas, Muntinglupa, Tagig, Pasay, Navotas, and Pateros. Most of the patients came from the first three municipalities.

DOCTOR INTENGAN RECEIVER OF MEDAL AND DIPLOMA

District Inspector Gabriel Intengan, of the Philippine Health Service, received on July 21, 1924, a Medal and a Diploma of Special Membership in the Red Cross Society of Japan. The diploma was written in Japanese language and translated as follows:

SOCIETE JAPANAISE DE LA CROIX—ROUGE

"The Red Cross Society of Japan, under the Exalted Patronage of their Majesties the Emperor and Empress, in conformity with the Constitution of the Society, and with the Rules governing the Order of Merit and the Medals of the Society, ratified on the 21st day of June in the year 1888;

Do hereby confer a Medal of Special Membership on

DR. GABRIEL INTENGAN

in recognition of his meritorious services to the Society.

(Sgd.) PRINCE KOTOHITO
Honorary President
(Sgd.) SHIGENOBU HIRAYAMA
President

"TOKYO, *February 10th, 1924.*"

NURSE ASSIGNED TO CAMP STOTSENBERG

Nurse Juana Penales has been directed to Camp Stotsenberg, Pampanga, for duty with the civilian community there. She will return to Manila after two weeks.

CONVENTION OF HEALTH OFFICERS IN TACLOBAN, LEYTE

A convention of health officers was held in Tacloban, Leyte, from June 23 to July 2, 1924. Thirteen presidents of sanitary division attended the session. During its inaugural meeting, the provincial board and the chiefs of the different offices of the provincial government were present. Governor Demetrio addressed the convention.

Various important resolutions were adopted, among which were the organization of Sanitary Inspectors Training School; the organization of civic societies in the barrios especially among school children for the purpose of disseminating health information; the drive for better water system in the municipalities and barrios, thus encouraging voluntary contributions; the organization of sanitation contest during the town and barrio fiesta, and other resolutions for the sanitary improvement of the province in general.

ZAMBOANGA YAWS CAMPAIGN

Dr. Eusebio Aguilar, district health officer of Zamboanga, reports that for the months of April and May, 47 persons suffering from yaws received neosalvarsan treatment, 30 of whom were males and 17 females; 28 children and 19 adults. A total of 37 patients were completely cured.

NEW ASSIGNMENT

Surgeon Francisco Velez, of the Philippine Health Service, has been directed to proceed to Santa Cruz, Laguna, to undergo training under Senior Medical Inspector Rivera Sayo until the latter will be ready to go as pensionado to America when he will be relieved by the former.

THIRD HEALTH RADIO LECTURE

The third health lecture to be broadcasted by radio will be on "Cholera and How to Prevent It." This will be given at Radio Station No. 1–BA, Electrical Supply Company, Inc., Santa Cruz, Manila, on July 31, 1924, at 8 p. m.

NEW ASSIGNMENTS

Assistant Surgeon Donato San Juan, district health officer, Marinduque, has been directed to proceed to Bangued, Abra, to assume the duties of the district health officer thereat, relieving Surgeon Tirso Coronel. Doctor San Juan, before leaving for Abra, shall transfer his office and property responsibilities to Dr. Jose Alaras, president, First Sanitary Division of Marinduque, who has been assigned as acting district health officer of Marinduque, in addition to his other duties, during the absence of his successor.

Surgeon Tirso Coronel, district health officer, Abra, has been directed to proceed to Boac, Marinduque, to assume the duties of district health officer thereat, relieving Dr. Jose Alaras, president, First Sanitary Division of Marinduque, who resume his former duties.

HEALTH LECTURE BY RADIO TO BE GIVEN ON JULY 30

The health lecture will be broadcasted by radio on July 30, 1924, at 8 p. m. at Radio Station No. 1–BA, Electrical Supply Company, Inc., instead of July 31, 1924, as has been previously announced.

STUDY ON TYPHOID FEVER IN MANILA BY COUNCIL OF HYGIENE

The results of a study on typhoid fever in the City of Manila, undertaken by the Council of Hygiene, give the following recommendations:

I. Improvement of sanitary conditions of the City of Manila especially as regards the—

(*a*) Water supply service.

(*b*) Sewerage service.

(*c*) Disposal of garbage and establishment of adequate crematories or other satisfactory means by which they may be finally disposed of and prohibition of their use as filling material.

(*d*) Regulation of tenement houses and establishment of a well regulated laborers' district.

(*e*) Better supervision on the preparation of foods and of places of distribution of same and of the food handlers.

(*f*) Campaign against flies.

II. Control and supervision of carriers.

III. Continuation of the vaccination campaign against typhoid. This ought to be given complete.

RADIO LECTURE TO BE GIVEN JULY 31

For some reason or other, the health lecture could not be broadcasted last night; the same will be given tonight (July 31, 1924) at 8 p. m., at Radio Station No. 1-BA.

NEW ASSIGNMENT

Dr. Victorino de los Santos, district health officer of Iloilo, has just arrived at Manila. He will soon leave for his new station at Batangas.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of July, 1924)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts—	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JULY, 1924

Date	Pressure (mean)[1]	Temperature						
		In shade[2]					Underground	
							0.50 m	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	*°C.*	*°C.*		*°C.*		*°C.*	*°C.*
1-10	757.92	27.0	32.8	2,7,8,9	23.0	1	30.8	30.9
11-20	56.15	26.1	32.5	19	23.8	17	29.0	29.1
21-31	57.18	26.2	32.0	28	23.8	24,27,28	29.1	29.3

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	82.7	96.0	8	61.5	9
11-20	87.7	98.0	16	68.5	11
21-31	85.8	97.0	21,24,25 26, 31	67.0	21, 23

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer[3] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	Variable.	1,587.5	294.5	10	32.3	4.5	7
11-20	SW	3,229.5	639.0	15	17.3	3.7	12
21-31	SW	3,166.0	383.0	29	28.6	5.3	28

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. *m.*	*h.* *m.*		*mm.*	
1-10	44 40	8 15	8	34	7
11-20	4 20	1 10	19	358	10
21-31	18 15	5 10	23	118.9	9

[3] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	7	10	37.59
Filipinos	551	520	1,071	44.79
Spaniards	3	1	4	24.11
Other Europeans	7	2	9	94.17
Chinese	31	25	56	36.95
All others	2	4	6	32.34
Total and average	597	559	1,156	44.22

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	152	144	296	8	14	22	318	98.93
No. 2, Meisic	100	95	195	4	7	11	206	23.01
No. 4, Sampaloc	95	87	182	4	6	10	192	45.25
No. 5, Tondo	150	123	273	7	8	15	288	41.55
No. 6, Paco	72	68	140	5	7	12	152	54.30
Total	569	517	1,086	28	42	70	1,156	44.22

Number of births attended by physicians, living, 347; stillbirths, 25.
Number of births attended by midwife, living, 96; stillbirths, 2.
Number of births attended by family, living, 713; stillbirths, 21.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	....	2	7.52
Filipinos	422	348	770	32.20
Spaniards	2	....	2	12.05
Other Europeans	1	....	1	10.46
Chinese	27	4	31	20.45
All others	1	1	2	10.78
Total and average	455	353	808	30.91

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	137	92
Divorced	....	....
Widowed	40	64
Single	357	243
Condition not stated	1	1
Total	535	400
Grand total	935	

Stillbirths	48
Number of deaths with medical attendance	446
Number of deaths without medical attendance	489

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	33	26	1	1	61
30 days to under 1 year	86	59	15	7	167
1 year to under 2 years	89	65	9	8	171
2 years to 4 years	53	39	3	4	99
5 years to 9 years	8	8	1	3	20
10 years to 14 years	....	5	1	....	6
15 years to 19 years	9	7	3	6	25
20 years to 29 years	31	23	11	6	71
30 years to 39 years	24	26	7	3	60
40 years to 49 years	35	23	7	2	67
50 years to 59 years	30	20	8	3	61
60 years to 69 years	20	13	10	1	44
70 years to 79 years	23	10	2	1	36
80 years to 89 years	7	14	....	1	22
90 years to 99 years	6	11	1	....	18
100 years and over	1	4	....	....	5
Total	455	353	79	46	933

One male and one female Filipinos of 40 and 60 years respectively, permanent residence unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts—	Deaths	Annual death rate per 1,000
No. 1, Intramuros	163	50.71
No. 2, Meisic	128	14.29
No. 4, Sampaloc	143	33.70
No. 5, Tondo	387	55.83
No. 6, Paco	114	40.72
Total	935	35.77

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			7	6						1			14
4. Malaria			4	1									5
6. Measles				1									1
8. Whooping cough			1										1
9. Diphtheria and croup			1	2			1						4
10. Influenza			8	6					1				15
12. Asiatic cholera			1										1
14. Dysentery			14	10							1		25
17. Leprosy			1										1
18. Erysipelas			1										1
20. Purulent infection and septicæmia			5	1									6
22. Anthrax					1								1
24. Tetanus			3	3					1				7
27. Beriberi				1									1
27a. Beriberi, infantile			32	24					1				57
28. Tuberculosis of the lungs			59	52					7				118
29. Acute miliary tuberculosis			2	2									4
30. Tuberculous meningitis			3	3						1			7
31. Abdominal tuberculosis			3	4									7
32. Pott's disease			1										1
33. White swellings				1									1
34. Tuberculosis of other organs				2									2
36. Rickets				1									1
40. Cancer and other malignant tumors of the stomach, liver			2	2	1				1				6
42. Cancer and other malignant tumors of the female genital organs				2									2
45. Cancer and other malignant tumors of other organs or of organs not specified			1	4									5
47. Acute articular rheumatism				1									1
50. Diabetes				1									1
54. Anæmia, chlorosis			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			2	1									3
61. Simple meningitis:													
(1) Simple meningitis			22	22								1	45
(2) Cerebro-spinal meningitis (undefined)				1									1

63. Other diseases of the spinal cord			1										1
64. Cerebral hæmorrhage, apoplexy			9	5					1	1			16
65. Softening of the brain			1										1
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			3	1									4
69. Epilepsy			1										1
III. Diseases of the circulatory system													
78. Acute endocarditis			2										2
79. Organic diseases of the heart	1		4	6					3				14
80. Angina pectoris				2									2
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			27	28									55
90. Chronic bronchitis			5	5									10
91. Broncho-pneumonia			37	26					2				65
92. Pneumonia			2	2					1				5
93. Pleurisy			3	1									4
94. Pulmonary congestion, pulmonary apoplexy			1										1
96. Asthma			1										1
98. Other diseases of the respiratory system (Tuberculosis excepted)			1										1
V. Diseases of the digestive system													
100. Diseases of the pharynx			1										1
104. Diarrhœa and enteritis (under 2 years)			44	21					1	1			67
105. Diarrhœa and enteritis (2 years and over)			14	10					1				25
107. Intestinal parasites				1									1
109. Hernias, intestinal obstructions			2	2									4
113. Cirrhosis of the liver			2	1									3
114. Biliary calculi				1									1
115. Other diseases of the liver				1									1
117. Simple peritonitis (nonpuerperal)			1						1				2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			9	4									13
120. Bright's disease			15	11					1				27
122. Other diseases of the kidneys and annexa				1									1
123. Calculi of the urinary passages			2										2
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				6									6
137. Puerperal septicæmia				3									3

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued.

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene	......	......	......	1	......	......	......	......	......	......	......	......	1
143. Furuncle	......	......	......	1	......	......	......	......	......	......	......	......	1
144. Acute abscess	......	......	1	......	......	......	......	......	......	......	......	......	1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2). Congenital malformations of the heart	......	......	......	1	......	......	......	......	......	......	......	......	1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)	1	......	4	5	......	......	......	......	1	......	......	......	11
(2) Congenital debility	......	......	22	13	......	......	......	......	1	......	......	......	36
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy	......	......	1	......	......	......	......	......	......	......	......	......	1
153. Lack of care	......	......	1	......	......	......	......	......	......	......	......	......	1
XII. Old age													
154. Senility	......	......	19	25	......	......	......	......	......	......	......	......	44
XIII. Affections caused by external causes													
155. Suicide by poison	......	......	......	1	......	......	......	......	......	......	......	......	1
167. Burns (conflagration excepted)	......	......	1	......	......	......	......	......	......	......	......	......	1
169. Accidental drowning	......	......	1	......	......	......	......	......	2	......	......	......	3
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	......	......	1	1	......	......	......	......	1	......	......	......	3
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	......	......	7	6	......	......	......	......	......	......	......	......	13
Total	2	......	422	348	2	......	1	......	27	4	1	1	808
Grand total	2		770		2		1		31		2		808

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			3	4								1	8
4. Malaria			1	1									2
9. Diphtheria and croup			1										1
10. Influenza			1	1									2
12. Asiatic cholera			1										1
14. Dysentery			1	1									2
20. Purulent infection and septicæmia				1									1
24. Tetanus			2	2									4
27. Beriberi				1									1
27a. Beriberi, infantile			5	3									8
28. Tuberculosis of the lungs			10	7									17
29. Acute miliary tuberculosis			1										1
30. Tuberculous meningitis			1										1
34. Tuberculosis of other organs			1										1
37. Syphilis			1										1
39. Cancer and other malignant tumors of the buccal cavity			1	1									2
40. Cancer and other malignant tumors of the stomach liver			1										1
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum		1	1										2
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
46. Other tumors (tumors of the female genital organs excepted)			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			2	2									4
(2) Cerebro-spinal meningitis (undefined)			4										4
63. Other diseases of the spinal cord									1				1
64. Cerebral hæmorrhage, apoplexy			2										2
67. General paralysis of the insane			1										1
68. Other forms of mental alienation			3										3
III. Diseases of the circulatory system													
79. Organic diseases of the heart			1	1									2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
IV. Diseases of the respiratory system													
89. Acute bronchitis			5	3									8
91. Broncho-pneumonia			5	5									10
92. Pneumonia			2	1									3
93. Pleurisy				1									1
94. Pulmonary congestion, pulmonary apoplexy			1										1
96. Asthma			1										1
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			4	1									5
105. Diarrhœa and enteritis (2 years and over)			2										2
108. Appendicitis and typhlitis				1									1
109. Hernias, intestinal obstructions,				1									1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
120. Bright's disease			2	2									4
123. Calculi of the urinary passages			2										2
124. Diseases of the bladder			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			3	1									4
XII. Old age													
154. Senility			1	1									2
XIII. Affections caused by external causes													
160. Suicide by cutting or piercing instruments			1										1
186. Other external violence			1										1
Total		1	78	44					1			1	125
Grand total	1		122						1		1		125

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Influenza					4	4
20. Purulent infection and septicæmia					2	2
24. Tetanus				5	1	6
27a. Beriberi, infantile				11	54	65
30. Tuberculous meningitis					1	1
37. Syphilis					1	1
61. Simple meningitis:						
(1) Simple meningitis					11	11
(2) Cerebro-spinal meningitis (undefined)					1	1
84 Diseases of the lymphatic system (lymphangitis, etc.)					1	1
89. Acute bronchitis					26	26
90. Chronic bronchitis					2	2
91. Broncho-pneumonia					22	22
93. Pleurisy					2	2
104. Diarrhœa and enteritis		1			25	26
115. Other diseases of the liver					1	1
119. Acute nephritis					4	4
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart	1					1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not stillborn)	8			3		11
(2) Congenital debility	9	2	1	10	18	40
152 Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy				1		1
Total	18	3	1	30	176	228

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,646
Number of rats caught by spring traps	2,169
Number of cage wire traps set	570
Number of rats caught by cage wire traps	0
Number and kind of baits (coconuts)	21,420
Number of poison portions placed	14,918
Number of rats found poisoned	448
Number of rats killed by clubs and other weapons	854
Number of rats found dead from other causes	655
Total number of rats otherwise caught, found dead, or killed	4,126
Total number of rats sent to the Laboratory for examination	4,126
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JULY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	6	1	13	1	4	1	5	2	3	1	13	3	44	9
Female	5	......	2	1	4	2	3	2	3	1	15	5	32	11
Home:														
Male	......	......	2	1	......	......	......	......	......	......	......	......	2	1
Female	......	......	......	......	......	......	......	......	1	1	......	......	1	1
Total:														
Male	6	1	15	2	4	1	5	2	3	1	13	3	46	10
Female	5	......	2	1	4	2	3	2	4	2	15	5	33	12
Grand total	11	1	17	3	8	3	8	4	7	3	28	8	79	22

REMARKS:

Total cases reported within the month in the City of Manila		94
Resident cases	63	
Non-resident cases	31	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		22
Deaths among resident cases	14	
Deaths among non-resident cases	8	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		74
By autopsy	1	
By blood culture	20	
By widal reaction	5	
By urine examination	1	
By feces examination	3	
By clinical symptoms	44	
Confirmed cases as paratyphoid fever		5
Cases not confirmed		15

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF JULY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	3	1	2	2	1	....	3	1	2	....	1	1	12	5
Female	2	1	3	1	2	....	1	1	....	....	1	....	9	3
Home:														
Male	....	....	2	2	5	4	4	4	2	1	....	....	13	11
Female	1	1	5	5	....	....	1	1	....	....	1	1	8	8
Total:														
Male	3	1	4	4	6	4	7	5	4	1	1	1	25	16
Female	3	2	8	6	2	....	2	2	....	....	2	1	17	11
Grand total	6	3	12	10	8	4	9	7	4	1	3	2	42	27

REMARKS:

Total cases reported within the month in the City of Manila		53
Resident cases	48	
Non-resident cases	5	
Total deaths reported within the month in the City of Manila		27
Deaths among resident cases	25	
Deaths among non-resident cases	2	
Cases not confirmed as dysentery		11

Dysentery carrier—1.

CHOLERA REPORTED DURING THE MONTH OF JULY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No 1		No 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	1	1									1	1	2	2
Female														
Home:														
Male														
Female														
Total:														
Male	1	1									1	1	2	2
Female														
Grand total	1	1									1	1	2	2

REMARKS:

Total cases reported within the month in the City of Manila		19
Resident cases	12	
Non-resident cases	7	
Foreign cases	0	
Resident cases not confirmed as cholera	11	
Non-resident cases not confirmed as cholera	6	
Total deaths reported within the month in the City of Manila		2
Deaths among resident cases confirmed as cholera	1	
Deaths among resident cases not confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	1	

Cholera carriers—2.

DIPHTHERIA REPORTED DURING THE MONTH OF JULY, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	....	....	1	1	1	1	1	....	2	....	3	1	8	3
Female	1	1	2	1	2	....	1	....	....	....	1	....	7	2
Home:														
Male	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Female	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total:														
Male	....	....	1	1	1	1	1	....	2	....	3	1	8	3
Female	1	1	2	1	2	....	1	....	....	....	1	....	7	2
Grand total	1	1	3	2	3	1	2	....	2	....	4	1	15	5

REMARKS:

Total cases reported within the month in the City of Manila		16
Resident cases	12	
Non-resident cases	4	
Resident cases not confirmed as diphtheria	1	
Non-resident cases not confirmed as diphtheria	0	
Total deaths reported within the month in the City of Manila		5
Deaths among resident cases	4	
Deaths among non-resident cases	1	

Diphtheria carrier—1.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	13	10	4	1
Varioloid				
Varicella	2			
Smallpox				
Measles	3	2		1
Whooping cough	2		1	
Influenza	28	11	9	6
Bubonic plague				
Beriberi, adult	1	1		1
Beriberi, infantile	33	24	33	24
Pulmonary tuberculosis	150	87	68	54
Tuberculosis of all forms	7	11	7	11
Encephalitis lethargica		1		

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria		1	1	1
Varioloid				
Varicella				
Smallpox				
Measles	1			
Whooping cough				
Influenza	5	4	1	1
Bubonic plague				
Beriberi adult		1		1
Beriberi, infantile	5	3	5	3
Pulmonary tuberculosis	21	19	11	7
Tuberculosis of all forms	2		2	
Encephalitis lethargica	1			

REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF JULY, 1924

Sera and vaccines	On hand July 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	275,000	1,000,000	1,275,000	320,000	955,000
Anti-tetanic serum (units)		68,000	68,000	68,000	
Anti-dysenteric serum (ampoules)	7	350	357	334	23
Cholera vaccine (c. c.)	2,240	74,520	76,760	60,540	16,220
Dried vaccine virus (units)	3,400	37,000	40,400	37,400	3,000
Mixed cholera-typhoid vaccine (c. c.)	12,180	172,770	184,950	160,850	24,100
Typhoid vaccine (c. c.)					
Fresh vaccine virus (units)	57,200	209,000	266,200	241,500	24,700
Gonococcus vaccine (ampoules)		110	110	110	
Normal horse serum (ampoules)					

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1924

Health Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
No. 1 Intramuros	1,211	176	1,005	30
No. 2 Meisic	977	149	825	3
No. 4 Sampaloc	1,711	244	1,412	55
No. 5 Tondo	1,663	373	1,274	16
No. 6 Paco	1,076	189	932	5
Total	6,638	1,081	5,448	109

Health Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1 Intramuros	176	8	33	44	205	170	414	222
No. 2 Meisic	168	2	27	11	....	....	195	13
No. 4 Sampaloc	185	1	108	40	....	....	293	41
No. 5 Tondo	306	6	340	69	....	4	646	79
No. 6 Paco	83	2	65	2	1	1	149	5
Total	918	19	573	166	206	175	1,697	360

Vaccine virus:

Received	16,200
Used	11,600
Remained	4,600

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1924

(See "Consolidated Table of Mixed Vaccinations in the City of Manila")

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	......	......	......	......	412	1,034	......	......	......	......	205	580	......	......	......	......	617	1,614
No. 2, Meisic	......	......	......	......	169	1,022	......	......	......	......	175	1,355	......	......	......	......	344	2,377
No. 4, Sampaloc	......	......	......	......	424	295	......	......	......	......	379	196	......	......	......	......	803	491
No. 5, Tondo	......	......	......	......	1,000	463	......	......	......	......	927	1,287	......	......	......	......	1,927	1,750
No. 6, Paco	......	......	......	......	305	37	......	......	......	......	415	33	......	......	......	......	720	70
Total	......	......	......	......	2,310	2,851	......	......	......	......	2,101	3,451	......	......	......	......	4,411	6,302

NOTE.—V, in persons never vanccinated before; R, revaccination. For first and second injections see Table of Mixed (Typhoid and Cholera) vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF JULY, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections [1]		First injections		Second injections		Third injections [1]		First		Second		Third	
	V.	R	V.	R.	V.	R.	V.	R.	V.	R	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	591	1,840	348	1,160	......	......	185	953	130	697	......	......	776	2,793	478	1,857	......	......
No. 2, Meisic	350	1,199	212	1,086	......	......	351	1,643	232	1,499	......	......	701	2,842	444	2,585	......	......
No. 4, Sampaloc	758	914	371	505	......	......	629	807	312	343	......	......	1,387	1,721	683	848	......	......
No. 5, Tondo	863	210	865	185	......	......	682	193	1,161	191	......	......	1,545	403	2,026	376	......	......
No. 6, Paco	348	27	297	8	......	......	352	35	360	12	......	......	700	62	657	20	......	......
Total	2,910	4,190	2,093	2,944	......	......	2,199	3,631	2,195	2,742	......	......	5,109	7,821	4,288	5,686	......	......

[1] Typhoid vaccine has been used in the third injections.

NOTE.—V, in persons never vaccinated before; R, revaccinations.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924.

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	8,889	1,693	4,833	2,363
Agusan	5,023	1,191	1,737	2,095
Albay	77,182	11,644	43,341	22,197
Antique	13,045	6,533	3,285	3,227
Bataan	5,908	754	3,131	2,023
Batanes	1,871	285	789	797
Batangas	76,654	11,557	47,390	17,707
Bohol	128,857	22,275	64,905	41,677
Bukidnon	2,380	328	1,004	1,048
Bulacan	20,549	6,151	7,477	6,921
Cagayan	21,970	7,216	6,667	8,087
Camarines Norte	3,785	1,742	1,027	1,016
Camarines Sur	5,463	1,847	2,174	1,442
Capiz	23,602	9,609	6,546	7,447
Catanduanes	8,283	3,133	1,365	3,785
Cavite	25,568	7,375	5,586	12,608
Cebu	55,554	20,402	12,916	22,236
Cotabato	10,473	3,338	2,530	4,605
Davao	2,584	1,425	617	542
Ilocos Norte	66,731	10,330	36,347	20,054
Ilocos Sur	26,944	5,120	12,806	9,018
Iloilo	57,904	20,628	21,544	15,732
Isabela	7,354	2,489	2,132	2,733
Laguna	23,193	5,124	8,579	9,490
Lanao	6,288	900	3,965	1,423
La Union	56,904	9,696	34,890	12,318
Leyte	32,808	8,874	13,351	10,583
Marinduque	7,144	1,466	3,483	2,195
Masbate	8,231	2,638	2,599	2,994
Mindoro	4,512	1,237	1,656	1,619
Misamis	12,631	3,781	3,956	4,894
Mountain Province	19,576	4,916	8,845	5,815
Nueva Ecija	19,629	4,672	5,671	9,286
Nueva Vizcaya	8,159	1,129	3,804	3,226
Occidental Negros	33,299	16,474	8,353	8,472
Oriental Negros	23,386	4,651	10,947	7,788
Palawan	4,533	1,730	1,861	942
Pampanga	125,455	18,960	101,254	5,241
Pangasinan	66,203	20,667	11,596	33,940
Rizal	28,607	5,673	15,475	7,459
Romblon	7,991	2,238	1,962	3,791
Samar	65,054	18,894	33,866	12,294
Sorsogon	9,582	3,895	2,828	2,859
Sulu	7,296	3,417	1,898	1,981
Surigao	3,261	685	1,437	1,139
Tarlac	18,107	3,336	9,889	4,882
Tayabas	29,927	8,564	12,024	9,339
Zambales	2,647	410	1,589	648
Zamboanga	25,385	8,756	12,594	4,035
Total	1,306,382	314,348	613,521	378,513

[a] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY 1924 [a]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	594	147	1,450	827	2,046	3,106	4,090	4,080
Agusan	115	103	281	292	434	604	830	999
Albay	4,043	1,246	7,481	8,686	23,401	18,237	34,925	18,269
Antique	1,326	294	3,380	1,170	2,512	1,601	7,218	3,065
Bataan	522	158	1,126	786	1,627	1,618	3,275	2,562
Batanes	168	55	211	115	607	443	986	613
Batangas	3,118	667	6,819	1,415	16,497	11,833	26,434	13,915
Bohol	3,996	707	13,784	3,588	45,178	29,086	62,958	33,376
Bukidnon	22	18	92	126	402	755	516	894
Bulacan	2,309	839	4,256	1,309	4,309	2,522	10,874	4,170
Cagayan	2,700	377	5,357	1,216	6,517	3,092	14,574	4,685
Camarines Norte	425	101	1,008	863	957	497	2,890	961
Camarines Sur	386	230	997	592	1,477	951	2,860	1,773
Capiz	1,583	890	4,131	1,503	6,698	4,958	12,412	6,851
Catanduanes	1,896	861	1,666	710	927	679	3,989	1,750
Cavite	3,245	447	5,287	1,157	10,801	4,406	19,283	6,010
Cebu	6,255	3,505	9,054	3,266	6,696	5,747	22,005	12,518
Cotabato	148	188	578	839	1,188	2,295	1,864	3,322
Davao	116	45	249	182	985	790	1,350	967
Ilocos Norte	2,890	531	7,984	2,134	20,938	21,901	31,812	24,566
Ilocos Sur	1,403	190	4,267	1,858	8,211	6,456	13,881	8,004
Iloilo	5,891	1,017	11,832	2,380	15,802	8,861	33,525	12,258
Isabela	225	191	1,158	1,179	1,644	1,870	3,027	3,240
Laguna	1,380	421	3,424	1,371	5,608	8,036	10,412	9,828
Lanao	272	38	914	185	1,444	889	2,630	1,112
La Union	2,168	410	6,596	2,452	13,456	10,747	22,220	13,609
Leyte	1,674	848	5,170	1,510	4,770	2,660	11,614	5,013
Marinduque	866	169	859	270	2,191	1,171	3,416	1,610
Masbate	269	120	916	349	1,595	1,448	2,780	1,917
Mindoro	233	53	747	228	1,406	943	2,386	1,224
Misamis	479	286	1,145	733	3,074	2,069	4,698	3,088
Mountain Province	858	202	2,968	1,139	4,753	2,844	8,579	4,185
Nueva Ecija	3,622	602	2,364	1,477	4,218	4,486	10,204	6,565
Nueva Vizcaya	617	105	1,855	353	3,655	1,226	6,127	1,684
Occidental Negros	6,164	1,380	7,748	3,087	4,910	2,408	18,822	6,875
Oriental Negros	1,613	574	5,073	2,063	7,120	5,306	13,806	7,943
Palawan	190	26	623	214	2,024	309	2,837	549
Pampanga	4,676	545	9,899	2,850	36,498	40,693	51,073	44,088
Pangasinan	9,842	2,001	15,705	5,017	13,800	10,582	39,347	17,600
Rizal	2,507	660	3,426	1,874	6,367	7,133	12,300	9,667
Romblon	413	157	1,078	730	1,820	1,489	3,311	2,376
Samar	1,674	662	7,861	2,727	19,384	7,622	28,919	11,011
Sorsogon	1,159	494	2,037	1,078	2,318	1,214	5,514	2,786
Sulu	365	102	1,329	519	2,581	1,460	4,275	2,081
Surigao	68	51	370	229	669	887	1,107	1,167
Tarlac	1,911	474	2,175	1,623	3,974	5,722	8,060	7,819
Tayabas	2,266	592	5,470	1,595	10,447	5,077	18,183	7,264
Zambales	44	12	169	98	278	270	491	380
Zamboanga	360	369	1,486	1,280	4,024	6,992	5,870	8,591
Total	88,066	22,750	183,805	65,139	342,188	260,991	614,059	348,880

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[a] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	6,499	4,392	812	116	....	....
Batangas	1,994	941	180	70	....	....
Bulacan	1,759	2,553	....	....	....	....
Catanduanes	26	25	....	....	....	....
Cebu	231	65	194	86	....	....
Laguna	983	725	364	160	....	....
Mindoro	18	8	....	....	....	....
Pampanga	45	30	23	10	....	....
Pangasinan	1,552	1,588	611	873	....	....
Rizal	440	40	399	40	....	....
Sorsogon	48	31	....	....	....	....
Total	13,585	10,398	2,033	1,355	....	....

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	6,056	3,990	292	122	....	....	20,937	842	....
Batangas	2,210	992	159	74	....	....	6,137	433	....
Bulacan	1,602	1,994	....	....	....	....	7,908	....	....
Catanduanes	13	20	....	....	....	....	84	....	....
Cebu	329	78	224	83	....	....	703	587	....
Laguna	838	591	354	126	....	....	3,137	1,004	....
Mindoro	9	6	....	....	....	....	36	....	....
Pampanga	61	22	30	4	....	....	158	67	....
Pangasinan	1,592	1,638	763	902	....	....	6,370	3,149	....
Rizal	283	19	225	41	....	....	782	705	....
Sorsogon	29	17	....	....	....	....	120	....	....
Total	13,022	9,367	2,047	1,352	....	....	46,372	6,787	....

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[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	87	38	43	20	25	4
Batangas	10	20	....	2	....	..
Bulacan	1,524	821	1,187	635	901	491
Camarines Sur	810	323	264	80	73	29
Catanduanes	85	4	83	4	1	....
Iloilo	64	22	65	21	35	11
Laguna	2,520	946	1,284	450	725	152
Mountain Province	481	159	117	31	94	10
Misamis	37	5	....	....	....	....
Nueva Ecija	458	364	152	87	49	60
Pampanga	1,186	1,238	784	864	273	440
Pangasinan	693	510	262	217	77	102
Rizal	531	219	353	98	338	87
Romblon	101	247	7	9	1	....
Tarlac	....	....	....	....	8	....
Total	8,544	4,920	4,607	2,523	2,620	1,450

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	18	45	29	31	147
Albay	50	61	15	34	3	13	236	112	45
Batangas	17	9	4	3	....	....	56	9	..
Bulacan	1,627	846	1,322	662	1,034	505	4,818	3,806	2 931
Camarines Sur	633	231	232	109	58	25	1,997	685	185
Catanduanes	111	5	110	5	....	....	205	202	1
Iloilo	64	24	55	23	34	11	174	164	91
Laguna	2,880	1,111	1,784	456	1,103	292	7,457	3,924	2,272
Monuntain Province	168	13	79	17	70	11	771	244	185
Misamis	20	7	....	....	....	....	69	....	..
Nueva Ecija	276	388	202	69	71	48	1,481	510	228
Pampanga	1,206	1,057	920	806	267	340	4,687	3,374	1,320
Pangasinan	697	455	296	210	58	66	2,355	985	303
Rizal	525	148	317	95	324	68	1,423	863	817
Romblon	44	184	24	26	1	....	576	66	2
Tarlac	....	....	....	....	14	1	....	....	23
Total	8,330	4,540	5,321	2,524	3,055	1,425	26,334	14,975	8,550

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[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	42	68	134	64	......	......
Antique	1,089	1,090	474	700	......	......
Bataan	807	40	94	16	......	......
Batanes	186	235	......	......	......	......
Batangas	2,065	957	1,107	584	......	......
Bohol	......	......	175	......	......	......
Bulacan	355	348	471	297	......	......
Cagayan	1,432	732	727	335	......	......
Camarines Norte	126	39	91	......	......	......
Camarines Sur	92	67	45	45	......	......
Capiz	1,452	724	452	215	......	......
Cavite	1,796	1,327	1,088	700	......	......
Cebu	1,149	192	481	72	......	......
Cotabato	122	2	......	......	......	......
Davao	14	38	......	......	......	......
Ilocos Norte	2,020	1,774	481	404	......	......
Ilocos Sur	1,239	307	1,750	291	423	16
Iloilo	492	308	356	219	......	......
Isabela	172	22	116	18	......	......
Laguna	1,405	782	824	61	......	......
La Union	1,717	678	898	779	......	......
Marinduque	734	548	768	830	......	......
Masbate	124	168	115	157	......	......
Mindoro	82	7	17	......	......	......
Misamis	988	600	278	121	......	......
Mountain Province	46	376	......	......	......	......
Nueva Ecija	1,144	782	590	790	......	......
Nueva Vizcaya	110	184	110	184	......	......
Occidental Negros	1,397	418	666	200	......	......
Oriental Negros	1,182	2,064	322	574	......	......
Palawan	70	......	......	......	......	......
Pampanga	2,195	2,336	1,256	1,404	63	182
Pangasinan	4,572	3,141	3,179	2,008	......	......
Rizal	3,627	1,298	2,365	979	......	......
Romblon	33	6	11	......	......	......
Samar	......	......	30	......	......	......
Sorsogon	272	471	26	5	......	......
Sulu	103	8	......	......	......	......
Surigao	238	165	108	107	......	......
Tarlac	1,408	1,427	654	897	......	......
Tayabas	2,478	896	788	544	......	......
Zambales	757	486	677	488	......	......
Zamboanga	358	163	......	......	......	......
Total	38,985	25,249	21,164	14,088	486	198

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[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	33	100	97	99			243	394	
Antique	1,328	993	464	555			4,500	2,193	
Bataan	181	30	50	9			558	169	
Batanes	57	151					579		
Batangas	2,401	865	1,201	495			6,288	3,387	
Bohol			147					322	
Bulacan	356	231	184	265			1,285	1,217	
Cagayan	929	587	618	343			3,680	2,023	
Camarines Norte	58	19	38	17			242	146	
Camarines Sur	57	78	25	40			294	155	
Capiz	991	557	348	74			3,724	1,089	
Cavite	1,644	1,005	1,025	505			5,772	3,318	
Cebu	923	244	462	106			2,508	1,121	
Cotabato	28	5					157		
Davao	8	20					75		
Ilocos Norte	2,089	1,684	478	468			7,567	1,831	
Ilocos Sur	785	287	1,109	254	248	6	2,568	3,404	693
Iloilo	313	290	276	290			1,409	1,141	
Isabela	144	17	120	12			355	266	
Laguna	1,234	551	412	73			3,972	870	
La Union	1,139	544	638	449			4,073	2,764	
Marinduque	786	740	494	724			2,753	2,816	
Masbate	115	234	98	118			641	488	
Mindoro	21	7					67	17	
Misamis	618	458	202	133			2,609	729	
Mountain Province	62	52					536		
Nueva Ecija	435	348	407	679			2,709	2,466	
Nueva Vizcaya	73	107	73	107			474	474	
Occidental Negros	1,075	507	619	273			3,392	1,758	
Oriental Negros	836	1,265	355	467			5,297	1,718	
Palawan							70		
Pampanga	1,959	1,653	1,042	1,127	82	169	8,143	4,829	496
Pangasinan	3,954	3,095	2,680	1,988			14,762	9,855	
Rizal	1,986	1,035	1,643	725			7,946	5,712	
Romblon	36	13					88	11	
Samar				18				48	
Sorsogon	178	429	24	7			1,350	62	
Sulu	26	9					146		
Surigao	41	31	142	115			475	467	
Tarlac	754	1,092	295	636			4,681	2,482	
Tayabas	1,814	626	567	224			5,814	2,073	
Zambales	582	419	552	414			2,244	2,131	
Zamboanga	180	112					813		
Total	30,135	20,490	16,885	11,809	330	175	114,859	63,946	1,189

[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JULY 1924

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JULY, 1924

Provinces and towns	Cases	Deaths
Batangas:		
Batangas	3	3
Bauan	2	1
Sto. Tomas	1	1
Taal	1	1
Bulacan:		
Obando	1	0
Ilocos Sur:		
Narvacan	1	1
Laguna:		
San Pablo	1	1
Rizal:		
Malabon	1	1
Total	11	9

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA DURING THE MONTH OF JULY, 1924

	Health districts—					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending July 1, 1924:						
Minor	57	19	17	43	30	166
Sewer	12	50	10	8	2	82
Vacating	3	7	4	2	3	19
Filling	4	11	13	5	4	37
Total	76	87	44	58	39	304
Orders issued during the month:						
Minor	6	28	7	4	2	47
Sewer	....	9	....	4	....	13
Vacating	1	1	....	9	15	26
Filling	....	....	1	1	....	2
Total	7	38	8	18	17	88
Grand total	83	125	52	76	56	392
Orders completed during the month:						
Minor	6	12	1	3	7	29
Sewer	1	1	....	....	....	2
Vacating	....	....	1	....	....	1
Filling	....	....	1	....	....	1
Total	7	13	3	3	7	33
Orders cancelled during the month:						
Minor	....	2	....	....	....	2
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	2	....	....	....	2
Orders pending July 31, 1924:						
Minor	57	33	23	44	25	182
Sewer	11	58	10	12	2	93
Vacating	4	8	3	11	18	44
Filling	4	11	13	6	4	38
Total	76	110	49	73	49	357
Strong material plans approved:						
New buildings including additions and alterations	21	13	18	24	8	84
Permits for minor building constructions:						
Approved	21	5	12	25	7	70
Disapproved	7	3	2	7	6	25
New buildings completed	6	8	10	10	3	37
Light and mixed material constructions:						
Permits approved	2	....	26	39	28	95
Permits disapproved	3	....	5	27	7	42
Total number of building projects passed upon	60	29	73	132	59	353
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	....	....	....	....	....	....
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	26	38	38	34	12	148
Plumbing projects completed	41	49	27	51	18	186
Premises connected to the sanitary sewer to June 30, 1924	1,745	2,919	1,119	606	436	6,825
Premises connected during the month	7	6	3	6	....	22
Total	1,752	2,925	1,122	612	436	6,847

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV AUGUST, 1924 No. 8

For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir **RONALD ROSS.**

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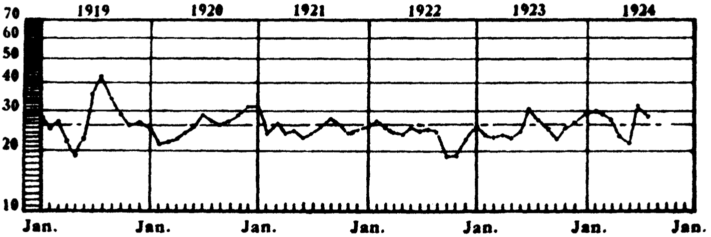
3. Typhoid Fever and How to Prevent It.
4. Miscellaneous.
5. Vital Statistics.

ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



------ Average death rate for the last five years.

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MONTHLY BULLETIN
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A SURVEY OF THE PHILIPPINE HEALTH SERVICE PERSONNEL

By TEOFILO CORPUS
Medical Inspector, P. H. S.

The data of this survey were compiled by Mr. Jose Villacorta, clerk of the office of Personnel of the Philippines Health Service, on May 19, 1924. This survey has been contemplated in order to get an idea of the present organization of the Service, by paying special attention to the universities and schools from which the health workers have graduated, their preliminary attainments, the number of years they have rendered service, and the scale of their present salaries. This list will include commissioned and non-commissioned personnel, viz.: the Director of Health, Assistant Director of Health, chiefs of divisions, district inspectors, medical officers of the City of Manila, district health officers, chiefs of hospitals, resident physicians, presidents of sanitary divisions, insular and provincial vaccinators, nurses, and assistant sanitary inspectors both in Manila and in the provinces.

I. COMMISSIONED PERSONNEL

On May 19, 1924, there was a total of 81 doctors in the commissioned service classified as follows: 22 senior medical inspectors, 20 medical inspectors, 16 senior surgeons, and 23 surgeons. Those in the commissioned service get their permanent assignments in the high rank of the service.

Of these physicians, 43 are graduates from Santo Tomas University; 20, University of the Philippines; eight, American universities; and 10 have no records of places of graduation. One holds the titles of Doctor of Tropical Medicine and Doctor of Public Health, and another holds a Certificate of Public Health.

As to nationality, the commissioned personnel is composed of 78 Filipinos, two Americans, and one Spaniard. As to sex, there are 77 males and four females.

In addition to this number, the Culion Leper Colony has the following personnel: One chief physician, who is a commissioned officer; two supervising physicians; seven senior physicians; two junior physicians; one assistant; one chemist; two junior chemists; one pathologist; two assistant pathologists; two scientific assistants; one chief nurse; two supervising nurses; eight senior nurses; and seven junior nurses. The pathologist and chemist are Americans and the rest are Filipinos.

In number of years of service of the commissioned personnel, three has served two years; six, for three years; seven, for four years; eleven, for five years; seven, for six years; six, for seven years; three, for eight years; six, for nine years; nine, for ten years; three, for eleven years; one, for twelve years; two, for thirteen years; one, for fourteen years; two, for fifteen years; two, for sixteen years; two, for seventeen years; one, for twenty years; two, for twenty-one years; six, for twenty-two years; and one, for twenty-six years. It may be seen that the 49 health officers have been rendering service from periods of two to nine years; 22, from 10 to 17 years; and 10, from 20 to 26 years.

The scale of salaries of the commissioned personnel, according to law, is as follows: Director, ₱7,200; Assistant Director of Health, ₱6,000; chiefs of divisions, ₱6,000; district inspectors, ₱5,000; senior medical inspectors, ₱4,000; medical inspectors, ₱3,000; senior surgeons, ₱2,400; and surgeons, ₱1,800.

There are twenty-six assistant surgeons at a salary of ₱1,800 per annum each, and six resident physicians, each receiving the same compensation.

II. PRESIDENTS OF SANITARY DIVISIONS

The president of a sanitary division is detailed to take charge of one single municipality or a group of municipalities, not exceeding four, in each province. The President of Sanitary Division are physicians, registered nurses, *cirujanos ministrantes*, and sanitary inspectors. Physicians receive permanent appointments and the rest only assignment of temporary nature until regular physicians are available.

There are 233 physicians having appointments as presidents of only sanitary divsions, and 60 having similar appointments although they are registered nurses, *cirujanos ministrantes*, and sanitary inspectors, making a total of 293 in all.

Of all the presidents of sanitary divisions who are physicians, 106 were graduated from Santo Tomas University; 15 from the University of the Philippines; five from American universities; and 107 have no records of places of graduation. All these physicians are men and all are Filipinos by nationality.

Among these physicians with permanent appointment, 37 have been rendering service for one year; 18, for two years; 42, for three years; 35, for four years; 25, for five years; 19, for six years; eight, for seven years; 11, for eight years; six, for nine years; three, for ten years; two, for eleven years; three, for fourteen years; and one, for twenty-two years. Twenty-three physicians have no definite records of the number of years of service.

The presidents of sanitary division earn salaries of ₱1,200 to ₱3,000 per annum each. These amounts have been fixed up by law, as set forth in the Revised Administrative Code of 1917.

The acting presidents of sanitary divisions, 60 in number, are Filipinos and are men. The scale of salary ranges from ₱600 to ₱1,080 a year. Of these Acting President of Sanitary Division six have been rendering service for one year; 10, for two years; seven, for three years; 14, for four years; 12 for five years; seven, for six years; and one, for ten years. Three men have no accurate records of their years of service.

III. NURSES

There is a total of 226 nurses in the employ of the Service, 100 of whom are in the Insular service, and 126 in the provincial service. These nurses have had either intermediate school or first year of high-school preliminary attainments.

Of these nurses, mostly women, 21 are graduates from the the Public Health Nursing Course of the University of the Philippines, which turned out its first graduates in 1922; 102, from the Philippine General Hospital Training School for Nurses; 16, from the Mary Johnston Training School for Nurses; nine, from the San Juan de Dios Hospital Training School for Nurses; seven, from the Saint Paul's Hospital Training School for Nurses; five, from the Mary Chiles Hospital Training School for Nurses; four, from the Iloilo Mission Hospital Training School for Nurses; three, from the Saint Luke's Hospital Training School for Nurses; two, from the Philippine Christian Institute Training School for Nurses; one, from the Laoag Sallie

Memorial Hospital Training School for Nurses; one, from the Asapahoe County Hospital Training School for Nurses, Denver, Colorado; and 55 have no records of places of graduation.

The nurses in the City of Manila receive a salary which ranges from ₱600 to ₱2,040 per annum, with subsistence, quarters, and laundry. The nurses in the provinces receive from ₱600 to ₱3,000 per annum. The amount of ₱3,000 is given to the chief nurse detailed in the Culion Leper Colony, in addition to subsistence, quarters, and laundry.

Of these nurses, 29 have been rendering service for one year; 39, for two years; 24, for three years; 25, for four years; 32, for five years; 19, for six years; eight, for seven years; eight, for eight years; three, for nine years; five, for ten years; two, for twelve years; and 31 have no records of their number of years of service.

IV. ASSISTANT SANITARY INSPECTORS AND VACCINATORS

There is a total of 1,457 assistant sanitary inspectors, of whom 1,285 are provincial and 172 insular. Their preliminary attainment ranges from the primary grade to high-school graduation. Several sanitary inspectors are appointed as dispensary attendants at the same time.

The Course for Sanitary Inspectors began its classes in 1922 and has been given instruction ever since. It admits as its entrance requirement the completion of the high school course. Those persons who are already in the employ of the Service are also admitted in this course. The object is to give them sufficient practical and theoretical training in three months each, so as to bring the health work to as high a standard of efficiency as possible. The student is given a diploma after the completion of the course. Already 46 sanitary inspectors have been graduated from this course since its opening. The salary of all classes of sanitary inspectors ranges from ₱480 to ₱4,000 per annum in the City of Manila, and from ₱180 to ₱1,200 per annum in the provinces. The salary of ₱4,000 is given to an American.

There is a total of 146 vaccinators, provincial and insular. The salary for this particular class of workers ranges from ₱180 to ₱1,800 per annum.

V. OTHER EMPLOYEES

The district health officers usually take charge of the provinces, which are 48 in number. These employees belong to the commissioned officers, although some members of the non-commissioned personnel are sometimes assigned temporarily to this work. There are also 13 assistant district health officers, nine provincial dentists, three bacteriologists, three midwives, and three pharmacists.

VI. CONCLUSIONS

It may be seen, therefore, that the Philippine Health Service is composed of a big army of physicians, nurses, sanitary inspectors, and vaccinators. Only one member the Service holds a Certificate of Public Health and another a degree of Doctor of Public Health, distinctions which will properly qualify them to take up public health work.

Very many of the presidents of sanitary divisions who have temporary appointments are not physicians. The Philippine Health Service is exerting its efforts to replace them with regular physicians, if there are available.

The sanitary inspectors usually have a school attainment of the primary and intermediate grades. The Course for Sanitary Inspectors has been established to fix high-school graduation as the prerequisite for entrance. In this way, the standard of efficiency of the Service may hopefully be raised.

Other classes of health workers shall be required to have a certain preliminary training as their qualification for entrance. That of the nurses seems to be acceptable at the present time. That of the vaccinators, either insular or provincial, shall be placed on the same footing with that of the sanitary inspectors.

The physicians in the future shall need to complete a certain amount of some post-graduate work in public health research as requirement for entrance.

THE PREVENTION OF ENDEMIC GOITER

By O. P. Kimball, M.D.
Cleveland Clinic, Cleveland, Ohio

[An address before the Annual Conference of Health Officers of Indiana, June 6, 1923]

The subject of endemic goiter is a very old one, and there has been a tremendous amount of work and research taking up every phase of this disease.

The larger endemic districts have been known for many years. An excellent monograph on the Geographical Distribution of Goiter was published by A. Hirsch in 1850. Endemic goiter has been of such importance in Europe that Government commissioners have been appointed to study the economic and social condition arising therefrom.

The early Greeks attempted to treat this disease by giving patient the ash of burnt sea sponges. This treatment was continued for centuries and undoubtedly did much good, as the sea sponge (kelp) is rich in iodin. In 1820 Doctor Coindet started the external application of iodin. From this time on iodin in some form has been used for the treatment of goiter.

As early as 1850, Chatin prophesied that goiter was due to a lack of iodin in the water of these endemic districts but his views were not accepted.

In 1874 Sir William Gull described in detail cases of myxodema and said that this condition was in some way due to a lack of function of the thyroid. This was the first definite statement regarding the function of the thyroid, but from this time our knowledge concerning the physiology of the gland and the relation of iodin to its functions has increased rapidly. In 1882 Revirdin and Kocher described the same condition resulting in patients when they had removed the whole gland as treatment for goiter, and further McKenzie and others soon started using glycerinated extract of thyroid in cases of myxodema with very definite results.

In 1895 Bauman showed that iodin was a normal constituent of the thyroid gland, and by 1907 Marine was teaching that the normal function of the thyroid gland depended on iodin.

It was further shown by Marine and Williams and Marine and Lenhart that there is a very definite relation between the iodin content and the histological structure of the gland. It was found that for all the animals studied—man, sheep, ox, pig, and dog—cellular hyperplasia and hypertrophy is due to a deficiency of iodin, and conversely that the iodin store in the thyroid varies in general with the amount of stainable colloid and inversely with the degree of active hyperplasia; in the extreme degrees of active hyperplasia seen in cretinoid states of man and animals the iodin store may be entirely exhausted. Then, too, if the animal is given iodin, the hyperplastic thyroid immediately returns to colloid or resting stage, the nearest approach to normal gland that a hyperplastic thyroid can make.

It has also been emphasized by Marine that there is but one cycle of changes through which the thyroid can go. Starting with the normal thyroid there is a decrease in the iodin store and a corresponding decrease in stainable colloid. If the iodin store falls below 1 milligram per gram of dried gland, active hyperplasia begins. The normal thyroid cell is flat or cuboidal and in single layers. The cells become columnar and there is a piling up of cells until we have the solid mass of cells filling the acini. This is the characteristic picture of active hyperplasia and one of two things must happen; (*a*) if the iodin deficiency is not met it will go on to cellular degeneration and atrophy, or (*b*) where the iodin deficiency is met it returns to the colloid or resting stage. This is the nearest to normal that an active hyperplastic gland can come and may be functionally normal.

This cycle of changes may take place many times, the resulting colloid goiter being somewhat increased with each change. The physiology of this cycle of thyroid changes is the same whether it be at puberty, during pregnancy, or as a part of exophthalmic goiter.

The thyroid has an extraordinary affinity for iodin and the amount taken up by any given thyroid varies with the degree of active hyperplasia. The maximum store is relatively constant for most mammals, those thus far studied averaging between 5 and 5.5 milligrams per gram of dried thyroid. The minimum amount necessary for the maintenance of normal gland structure is likewise constant, averaging about 1 milligram per gram of dried thyroid. The average normal iodin content for human thyroid is around 2 milligrams per gram of dried substance and the maximum total store in a strictly normal human thyroid does not exceed 25 milligrams. These facts are of the utmost importance in the practical application of iodin to the prevention and treatment of goiter.

In 1916 Kendall had succeeded in isolating in pure crystaline form the iodin containing hormone. This is a very stable chemical compound ($Cl_1H_{10}O_3NI_2$), known as Thyroxin, which contains 65 per cent iodin and produces the same pharmacological effects as whole thyroid. Chemically you can substitute either of the halogens, chlorine or bromine for the iodin and have a stable chemical compound, but it is physicologically inert.

In the experimental study of thyroid hyperplasia and hypertrophy (goiter formation) every evidence pointed to a deficiency of iodin as the etiology of those cellular changes or goiter. At the beginning of our work on the prevention of goiter we assumed that there was a deficiency of iodin in the water and food in these endemic districts. More recently McClendon has shown by more accurate methods of iodin determination that this is the true condition. By accurate chemical analysis it has been demonstrated that in localities where the incidence of goiter is high, the iodin content in the water is very low. That is, water from the lower Mississippi Valley or wells from this area has from 199 to 1,000 times more iodin than water from the glacial lakes in the northwest or water in the basin of the Great Lakes and conversely, the incidence of goiter is from 30 to 60 per cent among the school girls in these latter districts and there is practically no goiter in the lower Mississippi Valley and along the Atlantic coast.

Early in 1917 the practical application of the prevention of simple goiter in man was started through the public schools of Akron, Ohio, by Marine and Kimball. The principle here was to saturate the thyroid with iodin twice a year, and for this purpose two grams of sodium iodin were given over a period of two weeks each spring and fall. The result of this work was published each year for four years. A summary of results as tabulated in the fourth paper is given in the following table:

Classification	Taking		Not taking	
	Totals	Per cent	Totals	Per cent
Normal:				
Unchanged	906	99.8	910	72.4
Increased	2	0.2	347	27.6
Slightly:				
Unchanged	477	41.9	698	72.8
Increased	8	0.3	127	13.3
Decreased	659	57.8	134	13.9
Moderately enlarged:				
Unchanged	29	20.3	57	64.0
Increased	----------	----------	21	23.6
Decreased	114	79.7	11	12.4
Total	2,190	----------	2,306	----------

The small amount of iodin necessary and the precaution, lest we give too much iodin, were emphasized in each publication. It was further suggested that a few milligrams per week throughout the school year would produce maximum results with no risk of giving too much iodin over a short interval. Early in 1918 the work was started through the schools of Zurich, Switzerland, and the suggestion of a few milligrams per week was followed. Throughout all the schools in the cantons of Saint Gall, Zurich, and Berne, 5 milligrams of iodin per week has been given to each child for over three years and the reports of the health commissioners of these cantons show even more striking results than were reported in this country; and, in all the work in this country and in Switzerland not a single case of hyperthyroidism has developed among those treated. Beginning this year the work in this country has been greatly accelerated by adopting this method; many of the schools in the Cleveland district, Huntington, and Charleston, W. Va.; Hammond, Indiana, and Grand Rapids, Mch., are carrying out the prevention of goiter systematically. In most of these cities the school nurse is giving one tablet of 10 milligrams of iodin once a week throughout the school year and we feel that this is better science and more practical.

In our earlier papers we stated that goiter was about six times more frequent in girls than boys. Therefore only girls were urged to take the prophylaxis. The complete examination of all boys and girls in the schools of Grand Rapids, Mch., shows that only twice as many girls are affected. Examination of all the children in schools of Charleston and Huntington, W. Va., shows that approximately three times as many girls as boys have goiter. In some of the schools of Switzerland and less frequently in this (e. g., Oakfield, Utah, where the incidence of goiter nears 100 per cent), there seems to be little or no difference due to sex; but in these mildly endemic districts, the normal physiological changes dependent upon thyroid function during adolescence and pregnancy seem to play a more important rôle in the development of goiter. However, in this district, the necessity for prevention of goiter in boys is of more importance than was at first thought.

Until we can meet this deficiency of iodin by supplying it either in food or water it seems of utmost importance that we carry out this prophylactic measure through the schools as a problem of education and public health. Also it is as easy to prevent goiter during pregnancy and equally as important. Here 10 to 20 milligrams of iodin weekly throughout the whole term should be ample.

From the point of view of thyroid function it makes no difference what preparation or method of administration is used so long as the thyroid gets iodin in amounts which it can store without excessive stimulation. But from a practical point of view, especially in carrying out the prophylaxis of goiter, the preparation may make all the difference between success and failure. The best preparation for this purpose is the chocolate iodin combination which has been developed for this purpose, which consists of a vegetable fatty acid (tariric acid di-iodid) called "Iodostarine" combined with chocolate, each tablet containing 10 milligrams of iodin. This product is very stable, is pleasant to take, is most practical for administration to school children, and contains the proper amount of iodin which makes it perfectly safe.

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TYPHOID FEVER AND HOW TO PREVENT IT[1]

To take typhoid fever, you must eat or drink it . . . There is no other way. The former is caused by a germ that may be found in the discharges from the bladder or bowels of those who have the disease, or those who have had it.

It is usually spread by water or milk poisoned by typhoid discharges. It is sometimes spread by other foods to which the germs have been carried by dirty hands or by flies.

Water heated to the boiling point is made safe from typhoid.

Milk may be freed from typhoid poison by heating it.

Dirty hands may carry typhoid; therefore, wash and disinfect your hands carefully and use plenty of soap and water.

Food gets poison—especially green stuff—by being manured with soil from privy; by flies crawling over it after feasting on a typhoid discharge, of which they are especially fond; and often by the filthy dust of the street. Therefore, wash thoroughly all vegetables and fruits intended to be eaten raw. Wash them in water that has been boiled and then cooled. Keep flies out of the house by fly paper. Cover all food supplies, so that flies may not have access to them.

All foods are made safe from typhoid poison by cooking, but cooked food must be kept clean and free from flies.

There is one other typhoid danger that is important . . . Sometimes people who have had typhoid fever get entirely well, but go on carrying the germs in their bodies and giving them out in their discharges. Such people are called "typhoid carriers," and if they are careless in their habits, they may carry the germs on their hands to food that they are handling. Therefore, every one who has ever had typhoid fever shall be especially careful to wash their hands well before handling food for others.

If all the discharges of every existing case of typhoid fever and of every carrier were instantly disinfected, there would be no more typhoid fever in the world. If you are so unfortunate as to have a case of typhoid in the family, disinfect every discharge as a duty to your neighbors as well as to prevent others of the family from getting poisoned.

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[1] Broadcasted at Radio Station No. 1–BA on August 16, 1924, at 8 p. m.

For killing the typhoid germ, an efficient way is to bury the discharges. Do not throw them on the ground. Don't allow any discharge, either from the bowels or bladder, to be received or disposed of except in this manner.

Cleanliness is next to godliness. Cleanliness of the person; cleanliness in every detail of housekeeping; cleanliness of everything to be eaten and drunk; cleanliness in the case of those sick of the disease.

You can be vaccinated against typhoid fever and it will make you safe for a good while; certainly for a year or so, perhaps for longer after receiving three injections of a weekly interval. The health service will do it for you free. Call up and ask about it. We advise that everyone should be vaccinated, especially those who have to live or travel where they can not be sure of the purity of their water or milk.

We also advise it for those who have to take care of typhoid fever.

We would advise the family to drink or eat nothing that has not been boiled or cooked. Visitors should be kept out of the patient's room even the patient is in convalescent stage, for all who come in contact with a typhoid fever patient are in danger. The patient's hand may convey the germ to others by shaking hands, and the germs may be conveyed to the mouth.

Every excretion from the patient must be disinfected or boiled. Everything that is taken from the room must be disinfected—dishes, knives, forks, blankets, sheets, etc. The water closet should always be disinfected when used by the patient. Ignorance and filthy habits perpetuate typhoid fever. Therefore, handle a case with absolute cleanliness and the disease will not be conveyed to others.

All discharges from a typhoid case should be disinfected for at least a month after the patient is up and well. The convalescent is especially dangerous to others, because he and others do not know the typhoid germs linger in his excretions for sometime after he is well—sometimes for months or years.

Lastly, we ask the coöperation of the public to please notify the Philippine Health Service either verbally, by phone, or by writing of any case or carrier of typhoid fever that may come to their notice. In this way we may be able to institute the necessary measures on time and thus control the disease.

MISCELLANEOUS

NEW ASSIGNMENT

Surgeon Francisco Gomez has recently arrived at Manila for new assignment as member of the Committee on the Investigation of Typhoid Fever in the City of Manila.

YAWS CAMPAIGN IN ILOCOS NORTE

Medical Inspector Francisco Tolentino, district health officer of Ilocos Norte, reports that from January to June, 1924, a total of 232 persons suffering from yaws were under neosalvarsan treatments, of whom 127 were males and 105 females; and 139 adults and 93 children. Most of these persons have improved and many were cured.

The campaign was undertaken in the municipalities of Bacarra, Solsona, Pasuquin, and Dingras, and most of the cases came from the two last-mentioned municipalities.

WANTED

One female nurse to be stationed at Batangas at ₱70 a month. Any applicant will please see the Executive Officer of the Philippine Health Service from 8 a. m. to 12 noon and from 1 p. m. to 4 p. m. during office days, except Saturday from 8 a. m. to 1 p. m.

REPORT OF PROVINCIAL DENTIST IN BULACAN

Medical Inspector Juan Fernando, district health officer of Bulacan, reports that for the month of July, 1924, the provincial dentist of Bulacan has treated 1,285 persons of whom 262 were indigent, 40 Government employees, and 983 school children. A total of 84 extractions, 438 fillings, and 1,241 treatments,

MOSQUITO CONTROL WORK IN PAMPANGA AND BATAAN

Sanitary Engineer W. D. Tiedeman, of the Rockefeller Foundation, in charge of the malaria campaign in Pampanga in coöperation with the Philippine Health Service, reports that the mosquito control work in the poblaciones of Floridablanca and Porac has been continued without interruption during the month of July as has the work in the barrios of Tucap and San Jose, Dinalupihan, Bataan. Work was started in the barrios of Carmencita and Pabanlag, Floridablanca, about July 15. At all these places, larvacides are being applied weekly to all breeding places within flight range of the concentrated population. Paris green mixed with dust is used where anopheline mosquitoes are breeding alone and oil-soaked sawdust has just been introduced for pools where mosquitoes of other genera are breeding as well as anophelines.

YAWS CAMPAIGN IN BULACAN

Medical Inspector Juan Fernando, district health officer of Bulacan, reports that from March to June, 1924, 133 persons suffering from yaws were given neosalvarsan treatment in the province. Of this total, 78 were males and 55 females; 100 adults and 33 children; and 129 cured and the rest improved or stationary.

These persons were treated in the dispensaries of Meycauayan and Malolos.

YAWS CAMPAIGN IN PANGASINAN

Senior Medical Inspector Constantino Limjoco, district health officer of Pangasinan, reports that from March to June, 1924, 62 persons who were suffering from yaws were given neosalvarsan treatment in Pangasinan. Of this total, 32 were males and 30 females; 26 children and 36 adults; and 33 cured and 29 improved.

These persons were treated in the dispensaries of Lingayen, Bautista, Rosales, and Mangatarem, most of the patients coming from the first two municipalities.

DOCTOR INTENGAN LEAVES FOR BATANGAS (AUGUST 9)

District Health Inspector Gabriel Intengan, of the Philippine Health Service, has been directed to proceed to Batangas to supervise vaccination there.

DOCTOR REY LEAVES FOR NAGA (AUGUST 9)

Dr. Manuel Rey, resident physician of Naga Provincial Hospital, Naga, Camarines Sur, having completed his refresher course in the city, has been directed to return to his station to resume his work.

DOCTOR OROSA HAS RETURNED FROM INSPECTION (AUGUST 11)

Dr. Sixto Orosa, Acting Chief, Division of Hospitals, Laboratories, and Dispensaries of the Philippine Health Service, has returned to Manila today after inspection of Tarlac Provincial Hospital for three days.

DOCTOR VILLAFRANCA HAS RETURNED FROM INSPECTION (AUGUST 11)

Dr. Rafael Villafranca, chief of the Office of General Inspection of the Philippine Health Service, reports that in his recent trip of inspection to the towns of Santa Rosa, Biñan, and San Pedro Tunasan, Province of Laguna, he found said towns free from any epidemic and that he has noted marked improvement in the sanitary conditions in said towns since his last visit. He also inspected the office of the health officer and found that the office files are now being kept properly and up-to-date.

HEALTH OFFICERS TRAINING COURSE

From February of this year to the present time, a total of 29 physicians and four nurses have taken the training course of three weeks for health officers under the auspices of the Philippine Health Service. This month there are seven physicians and one nurse that are under the training. At the end of the course they will devote their time to practical work and they will visit the health stations of the City of Manila and the offices of the presidents of sanitary divisions in the neighboring provinces.

SKIN DISEASES CAMPAIGN IN MOUNTAIN PROVINCE

Medical Inspector Enrique Ochoa, district health officer of the Mountain Province, reports that an estimate of about 3,550 people suffering from skin diseases, commonly called ring worm, are found in the districts of Baslig, Talubin, Mayoyao, Bunihan, Damag, Natonin, Kalaw, and in the barrios of Tinglaya, Lias, Cadaclan, Bacari, Canew, Ducligan, Cambulo, Kinahin, Huiguin, Anac, Burnay, Habian, Mongaya, and Hapao, Mountain Province. Doctor Ochoa reports that 30 to 40 applications of salicylic acid 10 per cent in alcohol are needed to effect a cure in any case.

NOTICE TO THE PUBLIC

The Philippine Health Service wishes to announce that there is *no* danger of negative lepers spreading the disease. For this reason, there is no fear whatever of employing negative lepers in any work for livelihood.

FAREWELL DINNER IN HONOR OF DOCTOR RIVERA SAYO

The staff and officers of the Philippine Health Service have tendered an exquisite farewell dinner in honor of Senior Medical Inspector Vicente Rivera Sayo, district health officer of Laguna, at Paris Restaurant on August 14, 1924, at 7 o'clock p. m. Doctor River Sayo is a Government pensionado and will leave for America on the steamship *President Jefferson* on August 16, 1924, at 4 o'clock p. m.

The dinner was attended by Doctors De Jesus, Del Rosario, Fajardo, Hernando, Villafranca, Orosa, Intengan, Gabino, Arguelles, Domingo, Bantug, Laygo, Padua, Lopez-Rizal, Joven, Perez, Serrano, Pardo, De Leon, Mencias, and Simpao, and Messrs. Mañosa, Lopez, J., and Diaz, Doctor Rivera Sayo was the guest of honor.

COMMITTEE TO MAKE A SURVEY ON INDUSTRIES

A Committee to compose of Doctor Villafranca, chief, Office of General Inspection, chairman, and Drs. Gabriel Intengan and Regino G. Padua, and Sanitary Engineer Manuel Mañosa as members, has been appointed by the Director of Health for the purpose of making a thorough survey of the industries, professional diseases, and accidents in the City of Manila.

HEALTH LECTURE TO BE BROADCASTED

A health lecture under the auspices of the Philippine Health Service will be broadcasted by radio on August 16, 1924, at 8 p. m. This will be given at Radio Station No. 1-BA, Electrical Supply Company, Inc., Santa Cruz, Manila.

SIXTEEN NEGATIVE LEPERS ARRIVED ON STEAMER BASILAN (AUGUST 16)

Sixteen negative lepers have recently arrived on the steamer *Basilan* from the Culion Leper Colony. These negative lepers will be under parole at the San Lazaro Hospital.

SANITATION OF SAN RAMON PENAL COLONY, SATISFACTORY

Dr. C. H. Deles, San Ramon Penal Colony physician, Zamboanga, Zamboanga, reports that for the month of June the sanitation of the Colony is good.

All premises within the farm are cleaned daily. Within the prison there are garbage receptacles which are emptied and cleaned every day by means of carts. The colony is supplied with a fairly good Antipolo system of toilets.

The water for drinking is excellent. Spring water supplies the whole colony. The supply of food is very abundant. The amount of medical supplies is sufficient.

Patients in the hospital can have their daily baths. Prisoners are allowed to play indoor baseball, baseball, volley ball, and "sipa." There are two fields for this purpose: One inside the prison and another in front of the schoolhouse.

A total of 764 treatments were made, 2 minor operations, and 277 dressings.

DISTRIBUTION OF ASSORTED VACCINES

Dr. Bonifacio Mencias, acting chief, Office of Property of the Philippine Health Service, reports that for the month of July, 1924, the following vaccine virus and sera have been distributed in Manila and the provinces: antidysenteric serum, 320,000 units; antitetanic serum, 68,000 units; antidysenteric serum, 334 ampules; gonococcus vaccine, 110 ampules; cholera vaccine, 60,540 c.c.; mixed cholera-typhoid vaccine, 160,850 c.c.; smallpox virus (fresh), 241,500 units; and dried vaccine virus, 37,400 units. These cost ₱48,700.

HOOKWORM SURVEY IN AGUSAN

Medical Inspector Jose M. Raymundo, district health officer of Agusan, reports that in the hookworm survey made in the municipal district of Esperanza, Provincial Division of Wawa-Ojot, Agusan, the following per cent of intestinal parasites were found: Hookworm, 82 per cent; ascaris, 75 per cent; and all parasites, 94 per cent.

DOCTOR FAJARDO LEFT FOR MINDANAO (AUGUST 19)

Dr. Jacobo Fajardo, chief of the Division of Provincial Sanitation of the Philippine Health Service, left for inspection in Mindanao in company with the Governor-General.

TOTAL NUMBER OF LEPERS IN CULION LEPER COLONY

Dr. Jose Avellana Basa, chief of the Culion Leper Colony, reports that for the month of July, 1924, a total of 5,103 lepers are isolated in the colony, 4 of whom are Americans; 1 European; 14 Chamorros; 17 Chinese; 1 Japanese; and 5,066 Filipinos. There are 2,487 men, 1,318 women, 802 boys, and 496 girls. There are 1,134 single; 2,350 married; 267 widowed; and 1,298 children.

HOOKWORM CAMPAIGN AT LOS BAÑOS COLLEGE

Dr. Sixto Francisco, college physician, College of Agriculture, University of the Philippines, Los Baños, Laguna, in a letter received at the office of the Philippine Health Service, states that 50 per cent of the students in that college have hookworms. Doctor Francisco will administer carbon tetrachloride treatments to those found infected as soon as the supply of the drug is received.

CITY ARTESIAN WELLS REOPENED

The following named artesian wells have been improved and reopened for public use:

1. Estado and Magdalena, Trozo, opened July 28, 1924.
2. G. Tuason and D. Santiago, Sampaloc, opened July 28, 1924.
3. Tuason and Guipit, Sampaloc, opened August 6, 1924.

NURSE FERNANDEZ LEAVES FOR CAMP STOTSENBURG (AUGUST 22)

Nurse Petra Fernandez, of the Philippine Health Service, has been directed to report to Camp Surgeon, Camp Stotsenburg, Pampanga, for duty with the civilian community.

DOCTOR INTENGAN LEFT FOR BATANGAS

District Health Inspector Intengan, of the Philippine Health Service, has left this morning (August 22, 1924) for inspection in Batangas.

TWO NURSES WANTED

One registered nurse is wanted to work as district nurse in Batangas at a salary of ₱70 per month with traveling expenses, and another for Cavite with the same privileges. Those nurses having the necessary qualifications will please call at this Office of the Executive Officer of the Philippine Health Service, Potenciana Building, Intramuros.

REAL WORK OF CHARITY (AUGUST 23)

Mr. Ganciano Mandani, a product of the School for the Blind and the Deaf, a blind mechanic and repairer of typewriters of the Philippine Health Service, who is receiving ₱30 a month, was very anxious to install a radio receiving set at his house. He wanted to get the pieces of the apparatus and fix them himself free of charge as he is a poor young man.

Yesterday, Mr. Mandani went personally to Mr. Henry Herman of the Electrical Supply Company, Inc., for this purpose, and returned home happy and thankful. Mr. Herman has kindly given him almost all pieces needed to complete a radio receiving set, and Mr. Mandani is now busy fixing these pieces. He has promised that it will be ready for use after a few days.

This is indeed a real work of charity!

DOCTOR INTENGAN BACK FROM INSPECTION IN BATANGAS (AUGUST 25)

Dr. Gabriel Intengan, district inspector of the Philippine Health Service, has returned from inspection in Batangas. He reports that cholera has already been controlled in that district. The last case occured in the municipality of Batangas on July 23, 1924.

The general mortality is steadily decreasing since July 27.

There is an average of 6,000 anti-cholera vaccinations weekly. There are still three parties working in Lipa, Batangas, and Taal to complete the vaccinations among the inhabitants of these municipalities.

The anti-smallpox vaccinating party has left Batangas on August 24, 1924, after completing the work there.

A weekly amount of 1,000 c.c. of pure cholera vaccine will be sent to Batangas by the Central Office.

NURSE WANTED

One female nurse is needed to occupy the vacancy existing for district nurse in Occidental Negros. This position gives a salary of ₱70 a month with traveling expenses.

Any applicant will please report to the Acting Executive Officer, Philippine Health Service, Santa Potenciana Building, Intramuros, for further details.

DOCTOR MANUBAY LEAVES FOR MISAMIS

Dr. Sancho Manubay, a graduate of the University of the Philippines and a resident of Santa Rosa, Nueva Ecija, has been appointed resident physician in Misamis Hospital, Cagayan, Misamis. Doctor Manubay will leave for his station on the steamer *Cebu* on August 26, 1924.

DOCTOR FERNANDO IN MANILA

Medical Inspector Juan Fernando, district health officer of Bulacan, is now in Manila taking special laboratory work at the Bureau of Science. He will complete the course within a week.

YAWS CAMPAIGN IN ILOCOS SUR

Dr. Guillermo Zandueta, district health officer of Ilocos Sur, reports that from January to May, 1924, a total of 99 persons suffering from yaws received neosalvarsan treatment in his district. Of these, 57 were males and 42 females; and 37 adults and 62 children. Eighty-four persons were cured, 3 improved, and 12 remained stationary.

These persons were treated in the dispensaries of Vigan, Santa Maria, Santa, and Tagudin.

PHYSICIAN WANTED

A physician is needed to occupy the vacancy existing in the Seventh Sanitary Division which comprises the municipalities of Barugo, San Miguel, and Babatngon, in the Province of Leyte.

Anyone having the required qualifications will please call at the Philippine Health Service, Santa Potenciana Building, Intramuros, for further details.

DOCTOR VALDEZ REAPPOINTED MEMBER OF COUNCIL OF HYGIENE

The nomination of Dr. Benito Valdez as member of the Council of Hygiene for a term of five years, effective as of July 1, 1923, was confirmed by the Senate at its session on August 20, 1924.

DOCTOR CORPUS LEAVES FOR THE NORTHERN PROVINCES (AUGUST 28)

Medical Inspector Teofilo Corpus, Acting Assistant Executive Officer of the Philippine Health Service, will leave on the steamer *Bustamante* tonight for the northern provinces on Official business.

DOCTOR MUNSON LEAVING TOMORROW (AUGUST 28)

Colonel E. L. Munson, who acted as health adviser to His Excellency, the Governor-General, for the past three years, is leaving tomorrow for the United States to reënter into active service in the Medical Corps of the Army. The departure of Colonel Munson is keenly felt by all the officers of the Philippine Health Service, especially those who had been in close contact with him and he has been the recipient of many courtesies on the part of many officers and the Council of Hygiene, which as a body tendered him a farewell banquet in one of the local hotels. Colonel Munson's connection with the Health Service has been productive of untold good and all wish him Godspeed on his trip homeward.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of August, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,758
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

AUGUST, 1924

Date	Pressure[1] mean	Temperature						
		In shade[2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	755.85	26.2	31.5	2	23.1	5	28.2	28.2
11-20	57.21	28.0	32.3	20	24.2	20	29.3	29.6
21-31	58.61	26.2	32.6	21	22.7	24	29.1	29.2

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	88.5	92.7	4	82.9	10
11-20	80.8	84.8	20	78.2	12
21-31	85.5	93.3	22	81.8	26

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer (open air)[1]		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW	4,438.0	570	9	19.5	4.7	10
11-20	SW	4,651.0	715	12	43.8	5.5	12
21-31	E	1,845.0	600	22	23.1	3.5	26

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	22—30	9—05	10	495.6	9
11-20	31—30	8—20	11	.0	0
21-30	32—15	7—50	21	158.5	6

[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	4	5	9	33.83
Filipinos	468	493	961	40.19
Spaniards	3	3	6	36.16
Other Europeans	1	....	1	10.46
Chinese	25	19	44	29.03
All others	6	3	9	48.51
Total	507	523	1,030	39.40

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	84	103	187	9	6	15	202	62.84
No. 2, Meisic	90	74	164	3	4	7	171	19.10
No. 4, Sampaloc	88	110	198	7	7	14	212	49.96
No. 5, Tondo	160	151	311	10	7	17	328	47.32
No. 6, Paco	51	60	111	5	1	6	117	41.80
Total	473	498	971	34	25	59	1,030	39.40

Number of births attended by physicians, living, 256; stillbirths, 18
Number of births attended by midwife, living, 141; stillbirths, 1
Number of births attended by family, living, 638; stillbirths, 16

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	1	3	11.28
Filipinos	390	327	717	29.98
Spaniards	1	2	3	18.08
Other Europeans	1	3	4	41.85
Chinese	23	5	28	18.48
All others	5	....	5	26.95
Total and average	422	338	760	29.07

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	100	84
Divorced	....	....
Widowed	28	41
Single	345	255
Condition not stated	4	....
Total	477	380
Grand total	857	

Stillbirths	35
Number of deaths with medical attendance	434
Number of deaths without medical attendance	423

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	38	29	1	....	68
30 days to under 1 year	94	66	12	10	182
1 year to under 2 years	53	60	1	3	117
2 years to 4 years	43	44	3	2	92
5 years to 9 years	10	4	2	....	16
10 years to 14 years	6	5	2	1	14
15 years to 19 years	20	11	7	3	41
20 years to 29 years	44	26	6	9	85
30 years to 39 years	29	29	5	4	67
40 years to 49 years	20	14	8	4	46
50 years to 59 years	27	15	3	3	48
60 years to 69 years	13	10	3	....	26
70 years to 79 years	13	9	....	1	23
80 years to 89 years	4	10	1	1	16
90 years to 99 years	7	5	....	1	13
100 years and over	1	1	....	....	2
Age not stated	....	....	....	....	....
Total	422	338	54	42	856

One male Filipino of 25 years of age, permanent residence unknown not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	151	46.98
No. 2, Meisic	100	11.17
No. 4, Sampaloc	134	31.58
No. 5, Tondo	382	55.11
No. 6, Paco	90	32.24
Total	857	32.78

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			13	6					1		2		22
4. Malaria			4	1									5
4a. Malarial cachexia			1	1									2
6. Measles			1										1
9. Diphtheria and croup				3				1					4
10. Influenza			6	5		1	1						13
14. Dysentery			9	12					2				23
18. Erysipelas				1									1
19. Other epidemic diseases			1	1									2
24. Tetanus			1										1
27. Beriberi				1									1
27a. Beriberi, infantile			32	21									53
28. Tuberculosis of the lungs			56	60					4		1		121
30. Tuberculous meningitis			4	6							1		11
31. Abdominal tuberculosis			3	7									10
34. Tuberculosis of other organs				1									1
36. Rickets				2									2
37. Syphilis			2	1									3
40. Cancer and other malignant tumors of the stomach, liver			1	1					1	1			4
41. Cancer and other malignant tumors of the peritonaeum, intestines, rectum								1					1
42. Cancer and other malignant tumors of the female genital organs				3									3
45. Cancer and other malignant tumors of other organs or of organs not specified			2	1				1					4
47. Acute articular rheumatism			1	2									3
50. Diabetes			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			2	2									4
61. Simple meningitis:													
(1) Simplemeningitis			12	13									25
(2) Cerebro-spinal meningitis (undefined)				1									1
64. Cerebralhæmorrhage, apoplexy			5	2					3		1		11
65. Softening of the brain	1			1									2
68. Other forms of mental alienation			14	2									16
72. Chorea			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
III. Diseases of the circulatory system													
78. Pericarditis				2									2
79. Organic diseases of the heart	1		5	3									9
81. Diseases of the arteries, atheroma, aneurysm, etc			1										1
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			39	19					1				59
90. Chronic bronchitis			6	5									11
91. Broncho-pneumonia			41	33					2	1			77
92. Pneumonia			7	3									10
94. Pulmonary congestion, pulmonary apoplexy				1									1
96. Asthma			1										1
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa			1										1
102. Ulcer of the stomach					1								1
104. Diarrhœa and enteritis (under 2 years)		1	21	26					1				49
105. Diarrhœa and enteritis (2 years and over)			10	12						1			23
106. Ankylostomiasis			1										1
108. Appendicitis and typhlitis									1				1
109. Hernias, intestinal obstructions									1				1
110. Other diseases of the intestines				1									1
113. Cirrhosis of the liver			1	2									3
115. Other diseases of the liver			2										2
117. Simple peritonitis (nonpuerperal)			1	1									2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			6	3									9
120. Bright's disease			11	4					6				21
122. Other diseases of the kidneys and annexa				1									1
123. Calculi of the urinary passages			1										1
132. Salpingitis and other diseases of the female genital organs				1									1

VII. The puerperal state													
134. Accidents of pregnancy										1			1
135. Puerperal hæmorrhage				2									2
136. Other accidents of labor				1									1
138. Puerperal albuminuria and convulsions				1									1
139. Puerperal phlegmasia alba dolens, embolous, sudden death				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1										1
143. Furuncle			1										1
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			7	8		1							16
(2) Congenital debility			26	20									46
152. Other diseases peculiar to early infacy:													
(2) Other causes peculiar to early infancy			3	1									4
XII. Old age													
154. Senility			14	13									27
XIII. Affections caused by external causes													
160. Suicide by cutting or piercing instruments			1										1
167. Burns (conflagration excepted)				1									1
169. Accidental drowning			2										2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1	2						1			4
181. Electricity (lightning excepted)			1	1									2
183. Homicide by cutting or piercing instruments			1										1
186. Other external violence			2										2
XIV. Ill-defined diseases													
189. Causes of death not specified or ill-defined			1	2									3
Total	2	1	390	327	1	2	1	3	23	5	5	.....	760
Grand total	3		717		3		4		28		5		760

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	3					1				8
9. Diphtheria and croup			1										1
10. Influenza			2	1									3
14. Dysentery				2									2
17. Leprosy			2	1									3
20. Purulent infection and septicæmia			1										1
24. Tetanus			1										1
27. Beriberi				1									1
27a. Beriberi, infantile			2	3									5
28. Tuberculosis of the lungs			7	3							1		11
30. Tuberculous meningitis			1										1
31. Abdominal tuberculosis				2									2
35. Disseminated tuberculosis			1										1
37. Syphilis			1										1
42. Cancer and other malignant tumors of the female genital organs				1									1
53. Leuchæmia			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis				1					1				2
(2) Cerebro-spinal meningitis (undefined)			2	1									3
64. Cerebral hæmorrhage				1									1
68. Other forms of mental alienation	1		1	2									4
III. Diseases of the circulatory system													
78. Acute endocarditis			1										1
79. Organic diseases of the heart			2										2
IV. Diseases of the respiratory system													
89. Acute bronchitis			3	1									4
91. Broncho-pneumonia			2	2									4
92. Pneumonia				1									1
94. Pulmonary congestion, pulmonary apoplexy				1									1

V. Diseases of the digestive system													
99. Diseases of the mouth and annexa				1									1
104. Diarrhœa and enteritis (under 2 years)			3	2									5
105. Diarrhœa and enteritis (2 years and over)			3										3
108. Appendicities and typhlitis	1		1	1									3
109. Hernias, intestinal obstructions			1	1									2
117. Simple peritonitis (nonpuerperal)				1									1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis				1									1
120. Bright's disease			2	1									3
123. Calculi of the urinary passages				1									1
VII. The puerperal state													
135. Puerperal hæmorrhage				1									1
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene					1								1
143. Furuncle				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			2										2
XII. Old age													
154. Senility				2									2
XIII. Affections caused by external causes													
167. Burns (conflagration excepted)				1									1
182. Homicide by firearms				1									1
XIV. Ill-defined diseases													
189. Causes of death not specified or ill-defined			1										1
Total	2		48	42	1				2		1		96
Grand total	2		90		1				2		1		96

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Diphtheria and croup					1	1
10. Influenza					6	6
14. Dysentery					1	1
18. Erysipelas					1	1
19. Other epidemic diseases					1	1
24. Tetanus				1		1
27a. Beriberi, infantile				3	55	58
30. Tuberculous meningitis					3	3
61. Simple meningitis:						
(1) Simple meningitis					6	6
(2) Cerebro-spinal meningitis (undefined)					1	1
84. Diseases of the lymphatic system (lymphangitis, etc.)			1			1
89. Acute bronchitis				1	41	42
90. Chronic bronchitis					8	8
91. Broncho-pneumonia					24	24
92. Pneumonia					1	1
104. Diarrhœa and enteritis					22	22
109. Hernias, intestinal obstructions					1	1
119. Acute nephritis					2	2
151. Congenital debility, icterus, and sclerema:						
(1) Premature births (not stillborn)	12	2		1	1	16
(2) Congenital debility	12	3		16	17	48
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1			3		4
167. Burns (conflagrations excepted)	1					1
189. Causes of deaths not specified or ill defined	1					1
Total	27	5	1	25	192	250

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,646
Number of rats caught by spring traps	2,376
Number of cage wire traps set	680
Number of rats caught by cage wire traps	4
Number and kind of baits (coconuts)	21,310
Number of poison portions placed	17,919
Number of rats found poisoned	224
Number of rats killed by clubs and other weapons	380
Number of rats found dead from other causes	749
Total number of rats otherwise caught, found dead, or killed	3,733
Total number of rats sent to the laboratory for examination	3,723
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF AUGUST, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	5	2	12	5	12	1	11	4	10	2	12	5	62	19
Female	4	1	4	0	4	2	6	2	0	1	10	3	28	9
Home:														
Male	0	0	1	0	1	1	1	1	0	0	0	0	3	2
Female	0	0	0	0	1	0	0	0	1	0	0	0	2	0
Total:														
Male	5	2	13	5	13	2	12	5	10	2	12	5	65	21
Female	4	1	4	0	5	2	6	2	1	1	10	3	30	9
Grand total	9	3	17	5	18	4	18	7	11	3	22	8	95	30

REMARKS:

Total cases reported within the month in the City of Manila		119
Resident cases	90	
Non-resident cases	29	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		30
Deaths among resident cases	22	
Deaths among non-resident cases	8	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		91
By autopsy	3	
By blood culture	41	
By widal reaction	18	
By urine examination	0	
By feces examination	1	
By clinical symptoms	28	
Confirmed cases as paratyphoid fever		4
Cases not confirmed		24

Typhoid Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF AUGUST, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	2	2	0	0	1	1	1	1	1	0	5	4
Female	1	1	0	0	3	1	0	0	0	0	2	1	6	3
Home:														
Male	1	1	2	2	1	1	1	1	2	2	0	0	7	7
Female	1	1	3	3	5	5	1	1	0	0	1	1	11	11
Total:														
Male	1	1	4	4	1	1	2	2	3	3	1	0	12	11
Female	2	2	3	3	8	6	1	1	0	0	3	2	17	14
Grand total	3	3	7	7	9	7	3	3	3	3	4	2	29	25

REMARKS:

Total cases reported within the month in the City of Manila		35
Resident cases	31	
Non-resident cases	4	
Total deaths reported within the month in the City of Manila		25
Deaths among resident cases	23	
Deaths among non-resident cases	2	
Cases not confirmed as dysentery		6

Dysentery Carrier—None.

CHOLERA REPORTED DURING THE MONTH OF AUGUST, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	0	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	
Deahts among non-resident cases not confirmed as cholera	0	

Cholera Carrier—15.

DIPHTHERIA REPORTED DURING THE MONTH OF AUGUST, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	1	0	0	0	2	1	3	1
Female	1	1	1	1	1	1	1	1	1	0	2	0	7	4
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	1	0	0	0	2	1	3	1
Female	1	1	1	1	1	1	1	1	1	0	2	0	7	4
Grand total	1	1	1	1	1	1	2	1	1	0	4	1	10	5

REMARKS:

Total cases reported within the month in the City of Manila		11
Resident cases	7	
Non-resident cases	4	
Resident cases not confirmed as diphtheria	1	
Non-resident cases not confirmed as diphtheria	0	
Total deaths reported within the month in the City of Manila		5
Deaths among resident cases	4	
Deaths among non-resident cases	1	

Diphtheria Carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	14	5	5	2
Varioloid				
Varicella	3			
Smallpox				
Measles	2	1	1	
Whooping cough				
Influenza	17	15	7	6
Bubonic plague				
Beriberi, adult		1		1
Beriberi, infantile	32	21	32	21
Pulmonary tuberculosis	101	108	61	60
Tuberculosis of all forms	8	14	8	14
Encephalitis lethargica	1	2	1	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	5	2		
Varioloid				
Varicella	3			
Smallpox				
Measles				
Whooping cough				
Influenza	5	4	2	1
Bubonic plague				
Beriberi, adult		1		1
Beriberi, infantile	2	3	2	3
Pulmonary tuberculosis	17	10	8	3
Tuberculosis of all forms	2	2	2	2
Encephalitis lethargica	1			

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF AUGUST, 1924

Sera and vaccines	On hand August 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	955,000		955,000	300,000	655,000
Anti-tetanic serum (units)		214,000	214,000	214,000	
Anti-dysenteric serum (ampoules)	23	300	323	173	150
Cholera vaccine (c. c.)	16,220	36,000	52,220	43,500	8,720
Dried vaccine virus (units)	3,000		3,000	3,000	
Fresh vaccine virus (units)	24,700	198,000	222,700	218,300	4,400
Mixed cholera-typhoid vaccine (c. c.)	24,100	108,700	132,800	121,020	11,780
Gonococcus vaccine (ampoules)		100	100	100	
Normal horse serum (ampoules)					
Typhoid vaccine (c. c.)					

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1924

Health Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
No. 1, Intramuros	173	163	10	.....
No. 2, Meisic	1,154	157	16	981
No. 4, Sampaloc	2,180	137	191	1,852
No. 5, Tondo	1,518	297	40	1,181
No. 6, Paco	878	124	18	736
Total	5,903	878	275	4,750

Health Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	188	9	42	16	....	....	230	25
No. 2, Meisic	147	12	41	4	....	....	188	16
No. 4, Sampaloc	207	6	163	178	....	....	370	184
No. 5, Tondo	324	11	191	54	7	17	522	82
No. 6, Paco	167	6	85	76	1	....	253	82
Total	1,033	44	522	328	8	17	1,563	389

Vaccine virus:

Received	15,600
Used	11,600
Remained	4,000

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila.)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	......	......	......	......	2	24	......	......	......	......	......	1	......	......	......	......	2	25
No. 2, Meisic	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
No. 4, Sampaloc	......	......	......	......	10	5	......	......	......	......	......	......	......	......	......	......	10	5
No. 5, Tondo	......	......	......	......	52	......	......	......	......	......	55	......	......	......	......	......	107	......
No. 6, Paco	......	......	......	......	22	......	......	......	......	......	20	2	......	......	......	......	42	2
Division of Communicable Diseases	......	......	......	......	900	1,023	......	......	......	......	721	930	......	......	......	......	1,621	1,953
Total	......	......	......	......	986	1,052	......	......	......	......	796	933	......	......	......	......	1,782	1,985

NOTE.—V, in persons never vaccinated before; R, revaccinations.
For first and second injections see Table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF AUGUST, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections [1]		First injections		Second injections		Third injections [1]		First		Second		Third [1]	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	19	33	10	26	......	......	10	......	6	......	......	......	29	33	16	26	......	......
No. 2, Meisic	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
No. 4, Sampaloc	4	2	2	4	......	......	1	......	......	......	......	......	5	2	2	4	......	......
No. 5, Tondo	63	......	51	......	......	......	92	......	24	......	......	......	155	......	75	......	......	......
No. 6, Paco	11	......	38	2	......	......	13	......	27	4	......	......	24	......	65	6	......	......
Division of Communicable Diseases	1,564	2,272	850	1,490	......	......	1,565	1,422	722	1,605	......	......	3,129	3,694	1,572	3,095	......	......
Total	1,661	2,307	951	1,522	......	......	1,681	1,422	779	1,609	......	......	3,342	3,729	1,730	3,131	......	......

NOTE.—V, in persons never vaccinated before; R, revaccinations.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	10,167	1,809	5,533	2,825
Agusan	5,848	1,405	2,066	2,377
Albay	81,480	12,560	44,445	24,475
Antique	14,964	7,321	3,809	3,834
Bataan	6,880	818	3,739	2,323
Batanes	2,543	354	975	1,214
Batangas	77,733	12,247	47,474	18,012
Bohol	148,945	26,460	74,193	48,292
Bukidnon	2,721	377	1,144	1,200
Bulacan	24,330	7,184	8,943	8,203
Cagayan	24,678	7,886	7,544	9,248
Camarines Norte	4,662	2,050	1,389	1,223
Camarines Sur	5,463	1,347	2,174	1,942
Capiz	25,312	10,050	7,075	8,187
Catanduanes	8,283	3,133	1,365	3,785
Cavite	25,569	7,375	5,586	12,608
Cebu	55,554	20,402	12,916	22,236
Cotabato	10,473	3,338	2,530	4,605
Davao	2,584	1,425	617	542
Ilocos Norte	66,731	10,330	36,347	20,054
Ilocos Sur	30,868	5,592	14,869	10,407
Iloilo	63,998	23,826	22,753	17,919
Isabela	8,104	2,606	2,429	3,069
Laguna	28,599	5,964	10,750	11,885
Lanao	6,994	924	4,458	1,612
La Union	59,124	10,147	35,588	13,389
Leyte	32,808	8,874	13,351	10,583
Marinduque	8,196	1,660	3,856	2,680
Masbate	9,031	2,979	2,797	3,255
Mindoro	5,527	1,319	2,387	1,821
Misamis	15,356	4,485	4,737	6,134
Mountain Province	20,676	5,444	9,142	6,090
Nueva Ecija	22,634	5,514	6,809	10,311
Nueva Vizcaya	9,260	1,281	4,449	3,530
Occidental Negros	38,484	18,681	9,829	9,974
Oriental Negros	23,386	4,651	10,947	7,788
Palawan	4,533	1,730	1,861	942
Pampanga	125,455	18,960	101,254	5,241
Pangasinan	73,629	22,837	12,812	37,980
Rizal	28,607	5,673	15,475	7,459
Romblon	7,991	2,238	1,962	3,791
Samar	65,054	13,894	38,866	12,294
Sorsogon	14,221	4,785	4,898	4,538
Sulu	7,296	3,417	1,898	1,981
Surigao	5,436	1,659	2,127	1,650
Tarlac	18,107	3,336	9,889	4,882
Tayabas	33,179	9,490	13,089	10,600
Zambales	6,447	1,252	3,524	1,671
Zamboanga	25,878	9,065	12,608	4,205
Total	1,403,798	339,654	649,278	414,866

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[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	634	162	1,584	902	2,446	3,662	4,664	4,726
Agusan	143	106	301	300	456	619	900	1,025
Albay	4,403	1,465	7,731	3,899	24,378	14,019	36,512	19,383
Antique	1,612	349	3,873	1,323	2,913	1,891	8,398	3,563
Bataan	558	171	1,273	896	1,938	1,950	3,769	3,017
Batanes	217	76	283	141	980	561	1,480	778
Batangas	3,594	786	7,103	1,529	16,574	11,896	27,271	14,211
Bohol	4,556	747	16,339	3,992	54,601	32,252	75,496	36,991
Bukidnon	22	13	101	131	416	773	539	917
Bulacan	2,911	400	5,220	1,550	5,481	3,327	13,612	5,277
Cagayan	2,864	497	5,671	1,412	7,255	3,862	15,790	5,771
Camarines Norte	488	110	1,152	396	1,333	698	2,973	1,204
Camarines Sur	386	230	997	592	1,477	951	2,860	1,773
Capiz	1,649	401	4,255	1,524	7,430	5,344	13,334	7,269
Catanduanes	1,396	361	1,666	710	927	679	3,989	1,750
Cavite	3,245	447	5,237	1,157	10,801	4,406	19,283	6,010
Cebu	6,255	3,505	9,054	3,266	6,696	5,747	22,005	12,518
Cotabato	148	188	578	839	1,138	2,295	1,864	3,322
Davao	116	45	249	132	985	790	1,350	967
Ilocos Norte	2,890	531	7,984	2,134	20,938	21,901	31,812	24,566
Ilocos Sur	1,501	216	4,537	1,471	9,629	7,678	15,667	9,360
Iloilo	6,721	1,094	13,331	2,599	17,418	9,768	37,470	13,461
Isabela	234	203	1,221	1,267	1,783	2,025	3,238	3,495
Laguna	1,557	443	3,649	1,442	6,827	9,703	12,038	11,588
Lanao	288	38	944	185	1,580	1,108	2,812	1,331
La Union	2,336	465	6,802	2,599	13,724	11,249	22,862	14,313
Leyte	1,674	843	5,170	1,510	4,770	2,660	11,614	5,013
Marinduque	428	187	957	285	2,613	1,393	3,998	1,865
Masbate	283	126	1,014	379	1,968	1,666	3,265	2,171
Mindoro	243	53	800	232	1,687	1,255	2,780	1,540
Misamis	539	323	1,405	1,015	3,699	2,503	5,643	3,841
Mountain Province	930	223	3,228	1,263	5,047	3,159	9,205	4,645
Nueva Ecija	3,806	651	2,534	1,580	4,874	5,189	11,214	7,420
Nueva Vizcaya	702	119	1,950	388	4,176	1,481	6,828	1,988
Occidental Negros	6,881	1,611	8,972	3,494	5,964	2,889	21,817	7,994
Oriental Negros	1,613	574	5,073	2,063	7,120	5,306	13,806	7,943
Palawan	190	26	623	214	2,024	309	2,837	549
Pampanga	4,676	545	10,899	2,850	36,498	40,693	52,073	44,088
Pangasinan	11,143	2,162	17,592	5,581	15,746	11,993	44,481	19,736
Rizal	2,507	660	3,426	1,874	6,367	7,133	12,300	9,667
Romblon	413	157	1,078	730	1,820	1,489	3,311	2,376
Samar	1,674	662	7,861	2,727	19,384	7,622	28,919	11,011
Sorsogon	1,341	616	2,297	1,241	3,877	2,880	7,515	4,737
Sulu	365	102	1,329	519	2,581	1,460	4,275	2,081
Surigao	93	64	509	321	1,289	1,435	1,891	1,820
Tarlac	1,911	474	2,175	1,623	3,974	5,722	8,060	7,819
Tayabas	2,519	682	5,913	1,801	11,636	5,821	20,068	8,304
Zambales	620	198	644	409	896	1,892	2,160	2,499
Zamboanga	416	436	1,536	1,299	4,044	7,032	5,996	8,767
Total	95,691	24,543	198,120	69,786	372,178	282,181	665,989	376,460

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—												Total number injected		
	Males						Females								
	First injections		Second injections		Third injections		First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	7,920	6,217	386	311	....	....	7,308	5,430	463	127	....	....	26,875	1,287	....
Antique	70	60	30	40	....	....	25	30	40	20	....	....	185	130	....
Batangas	16,842	11,691	307	281	....	....	17,486	10,622	303	209	....	....	56,641	1,100	....
Bulacan	2,958	4,517	....	....	....	....	2,675	3,525	....	....	....	....	13,675	....	....
Catanduanes	26	25	....	....	....	....	13	20	....	....	....	....	84	....	....
Cebu	231	65	194	86	....	....	329	78	224	83	....	....	703	587	....
Iloilo	73	33	24	8	....	....	42	24	8	10	....	....	172	50	....
Laguna	983	725	364	160	....	....	838	591	354	126	....	....	3,137	1,004	....
Mindoro	13	8	....	....	....	....	9	6	....	....	....	....	36	....	....
Pampanga	45	30	23	10	....	....	61	22	30	4	....	....	158	67	....
Pangasinan	1,552	1,588	611	873	....	....	1,592	1,638	763	902	....	....	6,370	3,149	....
Rizal	440	40	399	40	....	....	283	19	225	41	....	....	782	705	....
Sorsogon	43	31	....	....	....	....	29	17	....	....	....	....	120	....	....
Total	31,196	25,030	2,338	1,809	....	....	30,690	22,022	2,410	1,522	....	....	108,938	8,079	....

[1] Incomplete, reports from other provinces not yet received.
A means persons of 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	88	39	44	21	26	5
Batangas	11	39	....	3	....	....
Bulacan	1,567	892	1,228	700	931	580
Camarines Sur	810	323	264	80	73	29
Catanduanes	85	4	83	4	1	....
Iloilo	125	61	106	41	76	30
Laguna	2,520	946	1,284	450	725	152
Mountain Province	431	159	117	31	94	10
Misamis	37	5	....	....	....	....
Nueva Ecija	453	364	152	87	49	60
Pampanga	1,186	1,238	784	864	278	440
Pangasinan	693	510	262	217	77	102
Rizal	531	219	358	98	338	87
Romblon	101	247	7	9	1	....
Tarlac	....	....	....	....	8	....
Total	8,650	5,050	4,690	2,610	2,692	1,509

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	18	45	29	31	147
Albay	52	62	17	35	5	14	241	117	50
Batangas	22	21	4	3	....	....	93	10	....
Bulacan	1,664	914	1,357	724	1,058	552	5,037	4,009	3,071
Camarines Sur	633	231	232	109	58	25	1,997	685	185
Catanduanes	111	5	110	5	....	....	205	202	1
Iloilo	94	58	72	41	51	28	338	260	185
Laguna	2,880	1,111	1,734	456	1,103	292	7,457	3,924	2,272
Mountain Province	168	18	79	17	70	11	771	244	185
Misamis	20	7	....	....	....	....	69	....	....
Nueva Ecija	276	388	202	69	71	48	1,481	510	228
Pampanga	1,206	1,057	920	806	267	340	4,687	3,374	1,320
Pangasinan	697	456	296	210	58	66	2,355	985	308
Rizal	525	148	317	95	324	68	1,423	863	817
Romblon	44	184	24	26	1	....	576	66	2
Tarlac	....	....	....	....	14	1	....	....	23
Total	8,404	4,655	5,375	2,605	3,098	1,490	26,759	15,280	8,789

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	42	68	134	64	....	....
Albay	2	2	....	....	....	....
Antique	1,098	1,096	478	704	....	....
Bataan	357	40	112	16	....	....
Batanes	196	336	....	....	....	....
Batangas	3,891	2,839	1,645	1,179	....	....
Bohol	....	....	175	....	....	....
Bulacan	613	780	692	675	....	....
Cagayan	1,432	732	727	335	....	....
Camarines Norte	498	45	154	....	....	....
Camarines Sur	92	67	45	45	....	....
Capiz	1,562	770	496	218	....	....
Cavite	3,350	4,140	2,186	2,928	....	....
Cebu	1,249	194	679	76	....	....
Cotabato	122	2	....	....	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	2,271	1,874	601	413	....	....
Ilocos Sur	1,312	315	1,814	331	423	16
Iloilo	684	408	495	262	....	....
Isabela	172	22	116	18	....	....
Laguna	1,405	782	324	61	....	....
La Union	1,717	673	898	779	....	....
Marinduque	784	543	768	830	....	....
Masbate	124	168	115	157	....	....
Mindoro	32	7	17	....	....	....
Misamis	933	600	273	121	....	....
Mountain Province	46	376	....	....	....	....
Nueva Ecija	1,144	782	590	790	....	....
Nueva Vizcaya	110	184	110	184	....	....
Occidental Negros	1,397	413	666	200	....	....
Oriental Negros	1,132	2,064	322	574	....	....
Palawan	70	....	....	....	....	....
Pampanga	2,195	2,336	1,256	1,404	63	182
Pangasinan	4,572	3,141	3,179	2,008	....	....
Rizal	3,627	1,298	2,365	979	....	....
Romblon	33	6	11	....	....	....
Samar	....	....	30	....	....	....
Sorsogon	272	471	26	5	....	....
Sulu	103	8	....	....	....	....
Surigao	238	165	103	107	....	....
Tarlac	1,408	1,427	654	897	....	....
Tayabas	2,478	896	738	544	....	....
Zambales	757	486	677	488	....	....
Zamboanga	358	163	....	....	....	....
Total	43,842	30,752	23,671	17,392	486	198

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[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	33	100	97	99	......	......	243	394	......
Albay	4	1	......	......	......	......	9	......	......
Antique	1,331	1,003	466	560	......	......	4,528	2,208	......
Bataan	237	31	106	10	......	......	665	244	......
Batanes	81	193	......	......	......	......	806	......	......
Batangas	4,138	2,484	1,565	934	......	......	13,352	5,823	......
Bohol	......	......	147	......	......	......	......	322	......
Bulacan	560	543	350	522	......	......	2,496	2,239	......
Cagayan	929	587	618	343	......	......	3,680	2,023	......
Camarines Norte	357	23	71	17	......	......	923	242	......
Camarines Sur	57	78	25	40	......	......	294	155	......
Capiz	1,081	584	374	77	......	......	3,997	1,165	......
Cavite	2,567	3,040	1,645	2,148	......	......	13,097	8,907	......
Cebu	928	244	472	106	......	......	2,615	1,333	......
Cotabato	28	5	......	......	......	......	157	......	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	2,337	1,820	722	499	......	......	8,302	2,235	......
Ilocos Sur	806	296	1,182	283	248	6	2,729	3,610	693
Iloilo	423	395	360	338	......	......	1,910	1,455	......
Isabela	144	17	120	12	......	......	355	266	......
Laguna	1,234	551	412	73	......	......	3,972	870	......
La Union	1,139	544	638	449	......	......	4,073	2,764	......
Marinduque	736	740	494	724	......	......	2,753	2,816	......
Masbate	115	234	98	118	......	......	641	488	......
Mindoro	21	7	......	......	......	......	67	17	......
Misamis	618	458	202	133	......	......	2,609	729	......
Mountain Province	62	52	......	......	......	......	536	......	......
Nueva Ecija	435	348	407	679	......	......	2,709	2,466	......
Nueva Vizcaya	73	107	73	107	......	......	474	474	......
Occidental Negros	1,075	507	619	273	......	......	3,392	1,758	......
Oriental Negros	836	1,265	355	467	......	......	5,297	1,718	......
Palawan	......	......	......	......	......	......	70	......	......
Pampanga	1,959	1,653	1,042	1,127	82	169	8,143	4,829	496
Pangasinan	3,954	3,095	2,680	1,988	......	......	14,762	9,855	......
Rizal	1,986	1,035	1,643	725	......	......	7,946	5,712	......
Romblon	36	13	......	......	......	......	88	11	......
Samar	......	......	......	18	......	......	......	48	......
Sorsogon	178	429	24	7	......	......	1,350	62	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	41	31	142	115	......	......	475	467	......
Tarlac	754	1,092	295	686	......	......	4,681	2,482	......
Tayabas	1,814	626	567	224	......	......	5,814	2,073	......
Zambales	582	419	552	414	......	......	2,244	2,131	......
Zamboanga	180	112	......	......	......	......	813	......	......
Total	33,903	24,791	18,563	14,265	330	175	133,288	73,891	1,189

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF AUGUST, 1924

(No case and no death reported during the month)

CHOLERA REPORTS RECEIVED FROM THE PROVINCES, FOR THE MONTH OF AUGUST, 1924

(No case and no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF AUGUST, 1924

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending August 1, 1924:						
Minor	57	33	23	44	25	182
Sewer	11	58	10	12	2	93
Vacating	4	8	3	11	18	44
Filling	4	11	13	6	4	38
Total	76	110	49	73	49	357
Orders issued during the month:						
Minor	7	19	7	4	7	44
Sewer	......	2	......	1	......	3
Vacating	1	......	......	......	......	1
Filling	3	......	1	......	......	4
Total	11	21	8	5	7	52
Grand total	87	131	57	78	56	409
Orders completed during the month:						
Minor	9	16	4	3	1	33
Sewer	1	2	......	......	......	3
Vacating	......	......	......	2	......	2
Filling	......	......	......	......	......	......
Total	10	18	4	5	1	38
Orders cancelled during the month:						
Minor	......	1	......	......	......	1
Sewer	......	......	......	......	......	......
Vacating	......	......	......	......	......	......
Filling	......	......	......	......	......	......
Total	......	1	......	......	......	1
Orders pending August 31, 1924.						
Minor	55	35	26	45	31	192
Sewer	10	58	10	13	2	93
Vacating	5	8	3	9	18	43
Filling	7	11	14	6	4	42
Total	77	112	53	73	55	370
Strong material plans approved:						
New buildings including additions and alterations	12	23	19	25	17	96
Permits for minor building construction:						
Approved	16	16	20	25	4	81
Disapproved	2	6	3	6	1	18
New buildings completed	11	4	12	16	11	54
Light and mixed material construction:						
Permits approved	1	......	14	24	6	45
Permits disapproved	3	......	4	13	5	25
Total number of building projects passed upon	45	49	72	109	44	319
Prosecutions:						
Convictions	......	......	1	1	......	2
Dismissals	1	......	......	......	......	1
Amount of fines	......	......	₱25	₱10	......	₱35
Plumbing permits issued	23	48	60	32	12	175
Plumbing projects completed	24	29	41	44	16	154
Premises connected to the Sanitary Sewer to July 31, 1924	1,752	2,925	1,122	612	436	6,847
Premises connected during August, 1924	4	1	3	5	5	18
Total	1,756	2,926	1,125	617	441	6,865

AUG 1? 1925 Medical Lib

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV SEPTEMBER, 1924 No. 9

Entered at the Manila Post Office as second-class matter

For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir RONALD ROSS.

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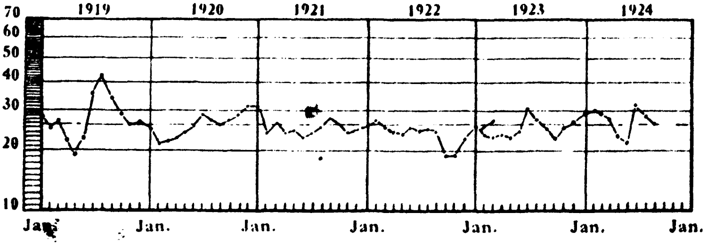
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



------ Average death rate for the last five years.

MANILA
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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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CULION THROUGH FOREIGN EYES

By C. L. BARTLETT, M. D.
Peking Union Medical College, Peking, China

Through the courtesy of Dr. Vicente de Jesus, Director of the Public Health, Philippine Health Service, I had the opportunity recently to visit the Culion Leper Colony. The trip proved interesting and instructive in the greatest degree, largely because of the fact that the work being done there was so very much worth while. No one could fail to be interested. It is apparent that the authorities have felt that this work was one of the most important being carried on, for the benefit and happiness of the Philippines, and it should be so considered by all who are in the least loyal to their Government, or who have hopes of developing greater things for their country.

In the first place, the large number of patients on the island impresses one. Just what proportion of the entire lepra population of the islands this, I do not think any one can say, but it must be a large part of it. The second thing that is noticeable is the physical comforts, that are available for the patients. Their houses compare favorably with those seen in the native portion of Manila, and taken as a whole, the living conditions are certainly infinitely more satisfactory than at San Lazaro Hospital. In many ways the inmates are undoubtedly far better off than before they were taken to Culion or than they would be if they were released. I heard, nor saw, no evidence of dissatisfaction on the part of the patients. The very fact that the colony contains so many patients means that its successful administration is a big job, and that its future success depends largely upon the vision of those responsible for the health of the people.

In one of our conversations the Governor-General mentioned the fact that he had plans and hopes for wider development on the islands, thus making the lot of these people better and hastening of the completion of the problem of the eradication of leprosy in the islands. I hope that he will soon be able to put these plans into operation. I have thought several times about the drive to raise money for the Rizal Memorial. I hope they get the money; but I have wondered if it would be possible to raise as much to put into a work which would probably stamp out leprosy in one generation and another heritage of physical cleanliness to the members of the next generation.

The food furnished is apparently sufficient. There are only two criticisms that I can make in this connection. First, insufficient variety. This would automatically be remedied if by the development of a system of good communication thru the islands the people get into the soil and by growing food, help themselves and the others, not able to work. Secondly, the lack of protection of the food supplies from flies. This is, of course, a local sanitary measure and should be remedied by those in present authority on the island.

The fresh water supply is apparently not quite adequate but steps are being taken to increase it. Two artesian wells drilled in the early days of the colony, have been equipped with pumps, but this source seems unsatisfactory at the height of the dry season, while at other seasons an abundant supply can be had from the stream. Progress on this work seems astonishingly slow. Here, as everywhere in the Philippines, water enters as a very prominent problem in public-health administration.

The statistics of the time, since ample funds were placed at the disposal of the staff of Culion to carry on adequate treatment, show that, of the patients treated, 56 per cent are improved and 36 per cent are stationary. The figures also show that the majority of deaths at Culion are not from leprosy, but from some intercurrent disease, usually many times this disease being tuberculosis or nephritis. These facts are interesting if read together. It means that segregation and systematic treatment is solving one problem, namely, it is controlling leprosy. But it means this also, that with a hospital population of over five thousand patients, the general clinical care received is inadequate and arrangements should be made to place a large number of competent clinicians on the field there. It means that leprosy undermines and the other disease kills. This is not peculiar to leprosy, nor is it peculiar to Culion, it is probably the same condition that portends in the many still unsegregated cases in the islands. It means that by tightening up on general clinical work done the percentage of those cured would be greatly increased. I wish to state emphatically that this is not in any possible way an argument against segregation but one for more adequate segregation, and above all earlier segregation.

Conditions, as they exist in the Philippines, offer an outstanding opportunity for the possible solution of an age old question in the epidemiology of leprosy. It is known that a majority of the patients segregated at Culion come from one island. This offers an opportunity, that should not be disregarded, to make a concerted effort to solve the problem of the actual method of transmission of leprosy.

After my return in Manila, I read some interesting press notices, and heard still more astonishing remarks, about the abolition of segregation for lepers in the Philippines. It is unnecessary to go into each one as they can all be answered in the same way. One of the chief arguments seems to be that, in view of the fact that leprosy is one of the least contagious diseases, segregation should be abolished. Although one of the infectious diseases and therefore it should be isolated. The fact that tuberculosis patients are not segregated is no argument. All mankind is susceptible to myriads of infectious diseases; and if we extended the same argument against segregation of such diseases down the list, we would abolish at one blow the back bone of modern preventive medicine. We do know that by segregation, combined with treatment, we can control and eradicate leprosy, and it should be carried out.

To abolish the efforts for leprosy eradication in the Philippine Islands during the last generation by turning all the patients loose, would be about as sensible as closing our hearts, minds, and books and vaulting back into the medial dark ages and wish the rat, the mosquito, the flea and fly, long life and von voyage, because we have no moral right to curtail their normal activities. Segregation, even if discontinued officially, would continue, for the people actually segregate their lepers, usually under conditions vastly worse for the lepers than exist at Culion or even at San Lazaro.

History has shown that segregation has been the only answer in the past—it is certainly more than half answered today, and should be accepted as a fact and not as a plaything for near-sighted politicians, whose real object in life is votes and not public good.

Instead of fighting against segregation every really public-spirited citizen should be working to make segregation more effective and if they feel the impulse to make the lot of these unfortunates lighter, there is certainly much money needed for further work in leprosy prevention and it should be found through some channel.

THE VALUE OF VACCINATION AGAINST SMALLPOX ONCE MORE SHOWN

Very few opportunities are there in the history of epidemic disease affording clear evidence of the value of prophylactic inoculations, that one can not avoid the temptation of offering the case of Manila as one of these evidences as regards vaccination against smallpox.

Manila and the rest of the Philippine Islands have been swept by the smallpox epidemic of 1918–1919. As a matter of fact, smallpox has never been absent in Manila and in provinces, either in the form of variola or in the modified form, varioloid. A great number of vaccinations has been performed in the Islands since the American occupation. This vaccination was instrumental not only in the almost elimination of epidemics but also in the reduction of incidence in the many local foci of infection. During the last few years previous to the epidemic of 1918–1919, the vaccination campaign, however, has been relaxed both in the city and in the rest of the Archipelago to such an extent that, not only, few vaccinations were performed (only about 45 per cent of the population was the aggregate percentage of immunized population at the end of 1917) but that, also, infants and children of school age of the population have been overlooked in the outline of vaccination campaign performed. This fact and other favorable factors made possible the outbreak of the most dreadful smallpox epidemic, one had record of, in the Philippines.

From that year on, the vaccination work was pushed on, the plan revised and more supervision was exerted on the work, with the result that at present we have an estimated average of 90 per cent of the general population immunized against smallpox. In spite of this fact, it must be said, however, that in certain localities where vaccinations have not been effectively carried out on account of local difficulties, the possibility of a smallpox outbreak can not be entirely excluded, but in Manila and in other accessible places of the Islands, the value of vaccination has been demonstrated once more as an efficient measure not only to eradicate smallpox but also to prevent outbreaks.

The intensive yearly vaccination performed in the City of Manila, with an estimated population of 310,000 people for 1924, since 1918, gave an estimated aggregate 95 per cent of the population immunized against smallpox. This high percentage of immunized population in the city was in our opinion the main factors in the results attained, to wit: (*a*) the eradication of smallpox in the city since 1921 to date and (*b*) the protection of the population from smallpox outbreak.

(*a*) *Eradication of smallpox from the city.*—That smallpox has been eradicated from the city may be seen from the following figures representing the incidence and mortality per 10,000 population from 1918 to date which are self-explanatory.

Incidence and mortality of smallpox per 1,000 population in Manila

	1918	1919	1920	1921	1922	1923	1924[1]
Incidence	46.82	1.88	0.17	0.03	0.03	0	0
Mortality	30.68	1.01	0.10	0	0	0	0

[1] First semester only.

The incidence for 1921 and 1922 in the foregoing table is represented by one (1) case for each year without death. The case of 1921 occurred in an American and the case of 1922 was a prisoner in Bilibid Prison. Both were cases of varioloid in persons recently arrived at Manila. During 1921 we had also 2 more cases of smallpox reported from the crew and officers of the steamship *Granite State and* steamship *Ecuador.*

(*b*) *Protection of the community against smallpox epidemic.*—The following facts are very significant and interesting showing the degree of protection of the city.

During the latter months of 1923, an epidemic of smallpox developed in Hongkong which prevailed especially in the Chinese population. Since the epidemic did not decline until the end of the first quarter of 1924 and taking into consideration that Manila is only 631 nautical miles far from Hongkong and, in continuous inter-relation with the latter thru frequent and regular commercial intercourse and immigration that the duration of the trip is shorter than that of the incubation period of the disease, and that every circumstance is favorable to the introduction of the disease unless we establish a rigid passenger inspection and enforce a strict quarantine for all Chinese arriving passengers for a period equal to that of the incubation period which is not always practicable, the possibility of infection may not be eliminated.

The facts are that, during the height of the infection in Hongkong, we have discovered in the City of Manila several cases of smallpox, as follows:

1. K. P., a chinaman, was discovered on January 18, 1924, with smallpox in the beginning of desquamation stage living in a room of a hotel. The case arrived at Manila 18 days before from Hongkong aboard the steamship *Taming*.
2. A contact of this patient, another Chinese, contracted the disease and died on January 28, 1924.
3. C. C., another Chinaman, arrived at Manila from Hongkong on February 27, 1924, aboard the steamship *President Grant*. This case was discovered on March 3 or about 4 days after arrival. The patient died.
4. On March 6, another case in the person of H. W., a Chinawoman, brought to Manila by the steamship *Hayes*, was discovered. The patient has recently arrived in the city.
5. Lastly, on June 1st, another case from Emuy was reported. The patient is another Chinese who arrived on May 29, 1924.

All these cases were discovered in the midst of thickly populated districts where the disease was fully developed and where infection and spread can hardly be controlled.

SUMMARY

1. Smallpox has been reduced to its minimum during 1920, 1921, and 1922, and completely eradicated during 1923 and the first semester of 1924 in the City of Manila.
2. In spite of the fact that Manila has been exposed to infection in several occasions during 1921 and 1922 for cases brought in by the steamship *Granite* and steamship *Ecuador* and also during 1924 thru cases from Hongkong, the infection did not get hold in the city.
3. The result stated above is nothing but the result of the intensive vaccination performed in the city.

OF THE DIFFERENTIATION OF M. LEPRÆ FROM THE MORE COMMON ACID-FAST BACILLI

By Eloy V. Pineda, M. D.

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[ABSTRACT]

There is reason to believe that not a few cases of leprosy are not segregated and treated as early as they should and might be, because of the failure of the examining bacteriologist to find the causative organism in smears, while non-lepers have repeatedly been removed to the leprosaria because acid-fast organisms other than that of leprosy have been found in smears taken them. The former is probably usually due to unreliable technic, while the latter is due solely to inability of the bacteriologist to differentiate the bacillus of leprosy from other acid-fast organism. While this is admittedly not always easy, yet in the majority of cases the mistake can be obviated by a knowledge of the differential characteristics of the organisms concerned. Besides *Mycobacterium lepræ* (usually spoken of as the bacillus of leprosy, or *Bacillus lepræ*), there are *M. tuberculosis*, and *M. smegmatis*.

TECHNIC

In obtaining smears, a correct technic is absolutely necessary, as recently emphasized by Wade and Lara[1] to eliminate the causes of failure to find the organism, and mistakes of identification. The surface of the skin should be thoroughly cleansed to avoid contamination of the smears with saprophytic acid-fast organisms, whether living or dead. The smegma bacillus is frequently to be found on the skin, not only about the genitals but also in places where perspiration and sebaceous secretion accumulate. Therefore, precautions should be taken to free the surface from this organism before taking smears for leprosy diagnosis.

It is not necessary that the skin be actually sterile, for it makes no difference in microscopic work if a contaminating acid-fast was killed before or after putting it on the slide. Mechanical cleansing of the skin as is done by surgeons in preparing for operating, is of primary importance. Soap and water may be used, but is inconvenient; alcohol is good but gasoline is probably the best medium for cleansing the skin; it has several advantages over alcohol.

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[1] Wade, H. W., and Lara, C. B.: A Plea for the Early Recognition of Leprosy. Journ. P. I. Med. Ass., Bol. IV, pp. 132–140, 1924.

Scrub the area to be incised thoroughly with a wad of cotton, gauze, or other clean material moistened with one of these fluids, and allow it to dry. With a sharp-pointed knife make an actual incision. This should extend well into the corium, for the greatest number of bacilli are found in this layer. Scrape the sides of the wound, avoiding bleeding so far as possible, and make thin smears on a clean slide. A little blood in the smear is distinctly helpful in the examination of the slide, especially when the organisms are very few, giving a better contrast in stain and aiding in keeping the field in permanent focus. Too much blood, however, makes the smear unsatisfactory for examination. Smears from the nose should be taken by actually scraping the mucosa covering the cartilaginous portion of the septum.

The knife used should be narrow-bladed, as one with a broad blade obstructs the view, and by touching the turbinates excites sneezing. The bacilli are found in the submucosa and, in order to get at them, it is necessary to draw some blood.

The smear is fixed by heat and stained by the usual procedure given in all textbooks on bacteriology. However, I wish to call attention to the fact repeatedly brought out by various authors,[1] that heating the staining fluid is not necessary. There is nothing to be gained except in the matter of time by working with hot solutions and under field conditions it is much less convenient than cold-staining. Two or three minutes in cold Ziehl carbol fuchsin is ample to stain the organism of leprosy. Whether Gabbett's solution or acid alcohol and methylene blue is used, the results are practically the same, although the former is more rapid and convenient, while the latter gives a better contrast stain.

DIFFERENTIATION OF ACID-FAST BACILLI

The acid-fast bacilli will be differentiated only on the basis of morphology and tinctorial properties in properly prepared smears.

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[1] Kielty, R. A.: Hydrochloric Acid as Decolorizing Agent for Tubercle Bacillus. Journ. Am. Med. Ass., Vol., 66, 1619–1620, 1916 (May 20).

Hager, B. H., and Deasch, R.: An Improved Procedure for the Staining of Acid-Fast Organisms in Tissues. Vol. 80, p. 460, 1923 (February 17).

NUMBER OF ORGANISMS

In no other comparable infection is there the number of organisms as in well-developed lesions of leprosy. Smears from tuberculous lesions or from external genitalia when the smegma bacillus is found in greatest number will never show so many. This criterion alone often helps in the differential diagnosis. Whenever the smears are made from caseo-purulent conditions and no, or very few, organisms are found, the lesion in the vast majority of cases is tuberculous. Of course, leprosy and tuberculosis may coexist, and then other differential characteristics and perhaps diagnostic procedures will have to be employed to make the full diagnosis, but for the purpose of diagnosing leprosy, it would be superfluous. While *M. smegmatis* may be found in considerable numbers, they are only found on and never in the skin. It must be emphasized that it is very unsafe to make a positive diagnosis of leprosy on the finding of one or two acid-fast organisms unless the clinical features are very clear and the organisms are morphologically unmistakable.

MORPHOLOGY

Size.—*M. lepræ* is typically a rod-shaped organism, varying in length from 2 or 3 to about 6 or 7 microns, though rarely forms up to 14 microns are found. Johnston[1] has classified this organism into four groups; the classical, the fragmentary, the solid and the nocardial types. In lesions of the skin more than one type may be present although certain ones predominate. In ulcers and lesions of the nasal mucosa, the bacilli are ordinarily rather long and thick, Johnston's solid type. These measure from 4 to 7 microns in length and from 0.2 to 0.4 micron in thickness. In active nodules the predominating bacilli may also be of this type and quite a number are found inside the mononucleated so-called lepra cell. In lesions of some standing, especially where retrogression has taken place, the bacilli are a little shorter, the classical type of Johnston, averaging only about 4 microns and usually there are also present some of the fragmentary type. In some instances there are only minute acid-fast granules that without the presence of the better known types one would hesitate to consider a form of *M. lepræ*. These should not be confused with other acid-fast granules that may be found on the surface of the skin. The latter are larger, very irregular in size, and some of them appear as distinct round or oval structures. The acid-fast granules of leprosy are very minute, occur in groups occupying a smaller area and frequently in circular arrangement very suggestive of the remains of globi.

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[1] Johnston, J. A.: The Varying Morphology of Bacillus Lepræ. Phil. Journ. Sci., Vol. XII, No. 9, pp. 115–120, 1917 (May).

In subcutaneous lepromata, especially in those that have broken down, the bacilli may be very large and measure from 0.5 to 1 micron in thickness, and from 7 to 14 microns in length. This type approaches the Actinomyces (*Streptothrix, Discomyces, Nocardia*) type of organism, which is believed by some to be a phase of the life history of *M. lepræ.*

The bacillus of tuberculosis is on the average a little longer than the classical *M. lepræ* taken from the skin and seldom shows such pleomorphism as the latter.

The variation in size of *M. smegmatis* is not as wide as that of *M. lepræ.* The smallest forms are distinctly ovoid, about 1½ times as long as they are wide, while the longest seldom reach 4 microns. The degenerative fragmentation so prominent in *M. lepræ* is not ordinarily seen in *M. smegmatis* or *M. tuberculosis.*

Shape—M. lepræ when very small has the shape of a very small cocco-bacillus, when over 4 microns in length it often has the central portion thick and the ends pointed. When short the thickened portion may be found at one end, while the opposite end is tapering. Whatever the size *M. lepræ* in the ordinary preparation usually has a smooth body line and is either straight or gently curved, ordinarily in only one direction. Individual tubercle bacilli seen in a smear are uniform in shape. The rods are, of course, often straight, but usually they are curved or less abruptly, and oftentimes in more than one direction. The ends of *M. tuberculosis* are ordinarily rounded and the lines of the body are irregular. *M. smegmatis* has also rounded ends, regular body line, but is ordinarily straighter than either of the others and does not show as great a variation in size and shape as the *M. lepræ.*

Arrangement.—A prominent characteristic of the leprosy bacillus is the arrangement of the individuals. There are seen the globi which are groups of bacilli in "cigar packet" formation, the organisms tending to be parallel to each other. When these masses are thick, the individual organisms may not be distinguishable except at the very edge. It is in such globi that the tapering ends of the bacillus is most clearly seen. Such globi may be seen inside the lepra cell. When found in leucocytes the bacilli are fewer in number and although some may be grouped in parallel, they often show no definite arrangement.

When there are few bacilli in the smears and, presumably, in the lesions, they may not present the characteristic arrangement but are seen singly. Usually in this case, they are short and plump, and oftentimes accompanied by the granules of degeneration.

M. tuberclosis shows no characteristic arrangement. There may be collections in places but the organisms are grouped in a haphazard fashion. Sometimes this organism takes the parallel arrangement, but only in couples and seldom in triplets or more. *M. smegmatis* also has no typical arrangement, though diplobacilli, i.e., pairs arranged end to end, may be more or less frequent.

STAINING PROPERTIES

When stained with carbol fuchsin, all these three bacilli retain the red color in spite of acid decolorization. But under similar conditions, the bacillus of leprosy stains more uniformly than does that of tuberculosis. In the long form of the former, however, there may be a slightly deeper staining area in the central portion of the bacillus, while the ends stain more faintly. This form is more acid-fast than the shorter or degenerated forms.

The bacillus of tuberculosis ordinarily takes an irregular staining showing many small areas that are deeply stained alternating with unstained portions. The deeper stained portions, however, are found throughout the whole bacillary body and is not confined to the central portion as if often is in leprosy, and the unstained bands of *M. tuberculosis* very seldom occur in *M. lepræ. Mycobacterium smegmatis* takes the stain very uniformly throughout its body and does not show either the granulation of tuberculosis nor the shaded staining of lepers.

The differentiation of these bacteria by their degree of acid-fastness is now generally recognized to be without much value. Furthermore, for the purpose of diagnosing and differentiating *M. lepræ* such technic becomes worthless. Their differences in permeability with stains, affords a more accurate way of differentiating *M. lepræ* from *M. tuberculosis.*

I have been using a slightly modified Baumgarten's method, as follows:

Make two smears in the lateral thirds of a slide, leaving the middle third free. Stain both smears for about 3 minutes in a cold 1 to 10 solution of Zhiel carbol fuchsin in distilled water. Decolorize and counterstain with Gabbett's blue for one-half minute. Blot dry and examine both smears. If the material contains *M. lepræ*, they will show in both smears. If the material is tuberculous in nature, no acid-fast will show up. Then remove the cedar oil from one of the smears with Xylol, allow to dry and remove the stain with acid alcohol. Wash this portion only in water and then stain with ordinary method for acid-fast. If the material contains *M. tuberculosis* they will now show up in this smear. In the event of mixed infection comparison of the numbers of acid-fast in both smears also helps for in the second smear, *M. lepræ* and *M. tuberculosis* will be stained.

It must be remembered that *M. lepræ* has no single characteristic that would differentiate it from either tuberculosis or smegmatis. Where in most instances a positive diagnosis of *M. lepræ* can be given at a glance, in a few cases the smears will have to be studied carefully and all the points taken into consideration in order to arrive at a reasonably accurate diagnosis.

I am indebted to Dr. H. W. Wade, Chief Pathologist, for courtesies received in the preparation of the this paper.

MISCELLANEOUS

DYSENTERY AND HOW TO AVOID IT

Dysentery is a term applied to a group of diseases which is usually communicable and of which the leading symptoms are pain in the abdomen, straining at stool, and frequent, scanty passages, with mucus or mucus and blood. It affects the large intestine.

Dysentery is found in every part of the world, but it is probably more prevalent in warm climate. In the Philippines it occurs mostly from the months of July, August, and September. Most dysenteries are caused by germs. These germs are usually water borne though there are many other sources of infection such as privies, dusts, contaminated food, flies, and things used by persons suffering from the disease. There is the amœba dysentery which is caused by amœba belonging to the lowest form of animal life. There is the bacillary dysentery which is caused by organisms belonging to the vegetable kingdom.

So long as the mucus surface of the alimentary canal is sound and vigorous, it is probable that the germs of dysentery pass through the body without attacking the tissues and giving rise to the disease. The same is true in other germs and other similar diseases.

Certain kinds of dysentery are more common in children than in adults, although, generally speaking, sex, age, and occupation are almost equally affected.

Diarrhea is the most constant symptom which is at first not painful. Usually within 36 hours the abdominal pain begins. Constant desire to go to stool and the straining are the most distressing symptoms. The thirst is very great. As the disease subsides the stool gradually becomes normal and the symptom less severe. Any form of dysentery may be subject to dangerous complications, such as dyspepsia. Of the total deaths in the Philippine Islands, about 7,000 persons die annually from all forms of dysenteries.

The dysentery patients are put to bed as soon as the symptoms of dysentery begin and as complete rest as possible secured. A dose of castor oil or Epsom salts is given at the beginning. No form of dysentery should be treated by patent medicines. Consult your family physician in every case of dysentery. It would be well to stop all food if it were possible in order to promote rest. But this is often inadvisable. The next best thing is to give a liquid diet.

Dysentery is taken in the same way as cholera and typhoid fever. Attention to the following rules will insure freedom from dysentery:

1. Use only boiled, distilled, or standard bottled water for drinking purposes of cleaning the teeth and mouth.
2. Do not touch water or food with the hands unless they have just been washed and well dried.

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[1] Broadcasted by radio at Radio Station KZKZ on September 16, 1924, at 8 p. m.

3. All food should be cooked. Fruit that grows on trees well above the ground may be safely eaten unless it has been contaminated by handling.

4. Flies may carry the organisms of dysentery on their feet, therefore, all food should be covered as soon as it is cooked.

5. Boil all water used for diluting milk.

6. Keep kitchen and table dishes thoroughly clean and scald them each time before they are used.

7. Vegetables and fruits which grow on or near the ground should not be eaten unless cooked. Raw vegetables are dangerous.

8. No diarrhea or disorder of the bowels, however slight, should go untreated.

9. The bowels of the body should be kept in good condition.

10. The dejecta of dysentery patients should be thoroughly disinfected or burned.

Lastly, the Philippine Health Service kindly asks the coöperation of the public by reporting to all health stations all cases of dysentery that may come to their notice either verbally, by phone, or by letter. In this way this Office may immediately institute measures to suppress dysentery.

PERSONAL NEWS

Senior Surgeon Hilario Lara, having reported to the central office from the United States where he had been as a pensionado, was directed to report to the chief, division of communicable diseases, for duty as diagnostician, and sundry work related to epidemiological investigation.

SANITARY SURVEY OF ILOILO

The sanitary engineer of the Health Service will be sent to Iloilo to make a general survey of the city relative to its topography, the viability of a drainage system, the selection of sites for crematories, for the disposal of garbage and rubbish, water supply and the general improvement of its sanitary condition. Once the survey is completed, Iloilo will be in a position to effect permanent sanitary improvements and will take its place of honor as the third city in the Islands.

MEDICAL RELIEF TO THE IMMIGRANTS OF ISABELA

District Health Officer J. de Leon, of Isabela, reports that the medical relief requested by the immigrants of Gamu, Isabela, has been extended to them. Doctor De Leon and provincial and municipal authorities inspected the place and during the four days of their stay, they gave the immigrants all the necessary medical aid. Three thousand (3,000) tablets of quinine and other medical supplies were distributed. The district health officer gave a series of popular talks before the immigrants relative to hygiene and sanitation, infant mortality, and malaria, how acquired and how it may be prevented. Malaria and acute bronchitis were common among the immigrants. The sanitary inspector at Gamu has been ordered to visit the immigrants once a week.

LEPER COLLECTION TRIP IN THE NORTHERN PROVINCES

Medical Inspector Teofilo Corpus, in charge of the leper collection trip in the northern provinces, reports that there were 85 lepers collected.

The lepers were collected from the following points: Aparri 35; Currimao 7; Pandan 21; San Fernando 14; and Subic 8.

DR. HILARIO LARA RETURNS FROM THE UNITED STATES

Doctor Hilario Lara returned recently from the United States where he took post-graduate studies at the Johns Hopkins University Graduate School of Hygiene and Public Health, having been awarded the Certificate in Public Health in 1923 and the degree of Doctor of Public Health in 1924. He specialized in Epidemiology, Vital Statistics, and Administration.

While at school he was entrusted by the Department of Hygiene to make a survey of the ventilation and heating conditions at Sparrow's Point High School to determine the cause or causes of discomfort felt at that school. During the past year, he collaborated with Doctor Meyer (Associate Professor of Hygiene) in research on ventilation—the particular problem being the effect of Ozone of Very Low Concentration on the Animal Metabolism.

He spent some time in Washington, D. C., at the United States Public Health Service studying the organization and methods of procedure, visiting the Bureau of Census after spending a few days in the Statistical Office. He has also devoted part of his time in studying the course of various typhoid epidemics and the determination of their causes.

He also visited the City Health Department of Providence (Rhode Island), the State Health Department, and the City Hospital for the Communicable Diseases, the Anti-Tuberculosis Society, the Division of Child Hygiene, and the Clinic of the Mental Section, studying their methods of isolation of infectious diseases.

Aside from these places, he also visited the Harvard School of Public Health, the Bureau of Communicable Diseases of the Massachussetts Department of Health, and the Boston City Health Department.

SANITATION CONTEST IN CEBU

During the month of July a sanitation contest was held in the towns of Compostela and Barile, Cebu. Among the successful contestants were Tranquilino Bergamento of Compostela who obtained the first honor in Fence and Stables; Bibiano Rivera in Vagetable Garden; Alberta Alquisola in Home Garden Flowers; Bartolome Peñares of Barile in Antipolo Closet.

SANITARY ENGINEERING ACTIVITIES

The chief of the Division of Sanitary Engineering of the Philippine Health Service reports that minor orders pending August 1, 1924, (sewer, vacating and filling) totalled 409; completed on August 30, 38; pending since September 1, 370. *New buildings including additions and alterations,* 96; *for minor building constructions*: 81 permits approved, 18 disapproved, and 54 completed; *light and mixed-material construction*: 45 permits approved, 25 disapproved; *prosecution*: 2 conviction and 1 dismissal; *plumbing permits issued,* 175; *plumbling projects completed,* 154; *premises connected to the sanitary sewer up to August 1, 1924,* 6,874.

THE SPIRIT OF SACRIFICE

Nurse Consolacion Enaya, of the Butuan Public Hospital, was on duty from 7 a. m. to 3 p. m., August 30, 1924, when the terrific earthquake occurred and her fidelity to duty was demonstrated by sticking to her place, not moving an inch to seek her own safety, in order that the patient she was attending would not collapse from the impending danger. She might have asked for help but there was none on hand; she could not by any means lift her patient as it was beyond her power to do so; she knew that if she would leave her patient it would result in the untimely death of the latter; she perfectly knew that it was the time for her to measure herself up to the full discharge of her duty, even under such conditions when her own life was threatened by the terrific onslaught of nature. She stayed in her place consoling and trying to enliven her patient that there was nothing to happen to them when in fact the earth was in a great commotion, and everything around them was being turned upside down. After the earthquake, Nurse Enaya and her patient were found in the very same place they were before the earthquake and the patient was saved thru the most tenacious "Stick-to-it-iveness" of Nurse Enaya to her duty regardless of the consequence.

Nurse Enaya has been commended for this spirit of self-abnegation, consciousness of responsibility to duty, bravery, and loyalty to service which bespeaks of her character.

Nurse Enaya is a graduate of the Zamboanga General Hospital and entered the Service in June of this year.

ADVISABILITY OF ESTABLISHING A NEGATIVE COLONY FOR LEPERS AT CULION

The chief of the Culion Leper Colony has requested the opinion of the Culion Medical Board at its meeting on August 20, 1924, regarding the feasibility and advisability of establishing a negative colony at Siuk or at New Jardin for those released negative lepers under parole, who find it necessary to remain within the reservation. The rules and regulations for the control, restriction, and guidance of these negative lepers will be drafted by the board.

DOCTOR CORPUS BACK

Medical Inspector Teofilo Corpus, of the Philippine Health Servie, returned on the steamship *Bustamante* to Manila from a leper collection trip in Mindoro and in Bicol provinces, as follows: Pinamalayan, 1; Pasacao, 34; and Sorsogon, 21. During the entire trip, including the northern provinces of Luzon, he brought 229 lepers to Culion. On his return, he brought five negative lepers to San Lazaro Hospital.

LEPERS NOT EXEMPT FROM CEDULA TAX

An annual internal-revenue cedula tax shall be paid by all male inhabitants of the Philippine Islands over the age of 18 and under 60 years with the following exceptions:

(*a*) Commissioned officers of the U. S. Army and Navy.

(*b*) Enlisted soldiers, sailors, and marines of the U. S. Army and Navy.

(*c*) Civilian employees of the military or naval branches of the U. S. Government who have come to the Philippine Islands under orders of the Government of the United States.

(*d*) Diplomatic and consular representatives and officials of foreign powers.

(*e*) Paupers.

(*f*) Insane persons.

(*g*) Imbeciles.

(*h*) Persons serving a sentence of more than one year in a public prison.

(*i*) Non-Christian living elsewhere than in the Department of Mindanao and Sulu may be exempted from the cedula tax by resolution of the provincial board, with the approval of the Secretary of the Interior. A copy of any resolution affecting such exemption shall be supplied to the Collector of Internal Revenue.

It is evident that lepers are not exempt from the payment of the cedula tax, unless they belong to anyone of the classes of persons specifically excepted. Likewise, the confinement of a leper to a hospital because of the contagious disease which he has contracted, does not relieve said leper from the duty to pay the cedula tax required by law.

SORSOGON'S PLAN FOR CONSTRUCTION OF EMERGENCY HOSPITALS AND PUBLIC DISPENSARIES

A plan for the construction of six emergency hospitals, ten public dispensaries, and one permanent leper-house has been received at the central office, from the district health officer of Sorsogon.

The fund will be raised by popular contribution subject to the approval of the Governor-General. There are in the whole province 1,600,000 coconut trees bearing fruits. The owners will be requested to contribute one coconut fruit from every coconut tree. The sale of the total number of fruits will be under the charge of the provincial treasurer, and in this way an amount of ₱480,000 will be collected, at ₱0.03 a fruit, enough for the proposed plan. The plan is to construct one emergency hospital in each of the six sanitary divisions of the province. Any remaining fund will be turned over for the construction of a provincial hospital of Sorsogon.

REPORT OF DOCTOR AVELLANA-BASA

Doctor Avellana-Basa reports that for the month of August, 1924, there is a total of 5,071 lepers in the colony, of whom 5,035 are Filipinos, 1 Japanese, 17 Chinese, 13 Chamorros, 1 European, and 4 Americans. Sixteen were discharged and 8 were born. There was no escape.

Of the total, 2,468 are males, 1,301 females, 808 boys, and 494 girls. There are 1,166 singles, 2,339 married, 264 widowed, and 1,212 children.

The steamship *Bustamante* has brought 5 negative lepers to San Lazaro Hospital on September 11, 1924.

MALARIA WORK IN PAMPANGA AND BATAAN

Sanitary Engineer Tiedeman, of the Rockefeller Foundation, in charge of Malaria work in Pampanga, in coöperation with the Philippine Health Service, reports that for the month of August, the field work in controlling mosquitoes in the poblacion of Floridablanca and of Porac as well as in the barrios of Pabanlag and Carmencita of Floridablanca, and Tucup and San Jose of Dinalupihan, Bataan, has been continued with satisfactory results.

Mr. Tiedeman also reports that a decrease in mosquitoes in the control areas was noted, but it is too early to look for the effect on malaria.

DOCTOR GUIDOTE ON WAY TO EUROPE

Dr. Jose Guidote, Government pensionado for the Philippine Health Service, has been granted the degree of Certificate of Public Health at the Johns Hopkins University. His record in the United States has been very satisfactory, both with respect to character and conduct, school work, and practical observations.

Doctor Guidote made close observations on and study of diabetic patients in the United States Naval Hospital, Washington, D. C., and in the Presbyterian Hospital of Columbia University, New York City. He paid particular attention in the use of insulin. He believes that the establishment of a dispensary for diabetic patients in Manila will put the Philippines on the foreground of public health in the Orient. He also visited New England Deaconess Hospital meeting Doctor Joslin of international reputation on diabeties.

Doctor Guidote left the United States for Europe on August 16, 1924, on board the steamship *Leviathan* to familiarize himself on public health and sanitation in England, Germany, France, Austria, Italy, Spain, and other European countries. He expects to return to Manila on the first week of November of this year.

DR. CASIMIRO B. LARA IN THE MAYO CLINIC

Dr. Casimiro B. Lara, chief physician of the Culion Leper Colony and a pensionado of the Philippine Health Service, is now at Rochester, Minnesota. He is getting acquainted with the doctors of St. Mary's Hospital and is making the rounds of the laboratories in order to acquaint himself of the work.

Doctor Lara's plan is first to take biochemistry and its application to nephritis, then take the study of liver function and its relation to the disorders of digestion, assimilation, and metabolism. After spending a year's work in the laboratories, Doctor Lara will take up chemical work in one of the Minneapolis hospitals under the guidance of Doctor White.

WATER RECEPTACLES IN H. S. HEADQUARTER

Of nine different water receptacles located in different parts of the building headquarters from which samples were taken for biological analysis, all were negative for B. coli and presumptive test for B. coli indicating the thoroughness with which these receptacles are cleansed and maintained and the purity of the drinking water supplied.

MR. ERNESTO PARAS TO SPECIALIZE IN BLOOD CHEMISTRY

Mr. Ernesto Paras, junior chemist of the Culion Leper Colony, has been detailed, previous arrangement with the dean, in the College of Medicine and Surgery, having been made, to specialize in blood chemistry.

VACCINE VIRUS SUPPLY

The amount of supply of vaccine virus furnished by the Bureau of Science has diminished because of the quarantine of animals and the hardship of securing noninfected animals from the provinces. There are 1,350 units on hand in Manila. During the month of September a total of 54,000 units of glycerinized vaccine and 40,000 units of dried vaccine have been supplied to the Philippine Health Service.

WATER AND SEWAGE SYSTEMS AT MALOLOS

A new water system has been inaugurated at Malolos, Bulacan. A public sewage disposal is being planned. In order to carry out the latter plan, the sanitary engineer of the Philippine Health Service has been requested to go to Malolos and confer with the district engineer and the district officer of the Province of Bulacan to study the feasibility of carrying such purposes.

EXAMINATION FOR EMBALMERS

The examination for embalmers will be held at the central office of the Philippine Health Service, Manila, on October 20, 1924, at 9 a. m. The subject of the examination will be Anatomy (especially Angiology); Sanitary Science; Element of Physiology; Notion of Chemistry; Toillette of the Cadaver; Practical Embalming; laws and regulations concerning the disposition of dead bodies in the Philippines; and Ethics of Undertakers and Embalmers. There will be two examinations: the first will be theoretical and the second practical. The cadaver to be used, the instruments, and all the necessary materials will be provided for by the candidates.

OBITUARY

Assistant Sanitary Inspector Mateo Navalta, a native of Luna, La Union, died on September 26, 1924, of nephritis and malaria, in Jolo, Sulu.

Mr. Gerardo Rosales, acting president of Sanitary Division, Tinambacan, Samar, died of anthrax on September 18, 1924. Mr. Rosales has been connected with the Philippine Health Service for four years with very satisfactory services.

USED PAPERS FOR WRAPPERS

The Philippine Health Service desires to call the attention of all persons concerned that it is absolutely prohibited to use papers containing writings, such as newspapers, those that have been written or otherwise used as wrapper for whatever article of manufactured or prepared food, such as bread, sweets, candies, pastries, etc., with the warning that violation for the first time of this order shall cause the revocation of the license of the establishment committing such offense for a period of three months, for a period of six months for the second violation, one year for violation for the third time, and definite and unconditional revocation of license in case of violation for the fourth time.

The use of old or used papers as wrappers for prepared articles of food is dangerous to the public health as they are potential carriers of innumerable microörganisms which are injurious to health, and for this reason the use of said papers has been ordered prohibited. We anticipate that, for the good of the community, the public will lend its whole-hearted coöperation toward the enforcement of this sanitary order.

YAWS CAMPAIGN IN LA TRINIDAD, BENGUET

The sub-district health officer of La Trinidad, Benguet, has requested 200 tubes of neosalvarsan for the treatment of yaws. The campaign against yaws among the Igorrotes is attended with wonderful results.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of September, 1924]

ESTIMATED POPULATION FOR THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,184
Filipinos	281,758
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, SEPTEMBER, 1924

Date	Pressure mean [1]	Temperature						
		In shade [2]					Underground	
							0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	758.36	26.4	31.7	2	23.0	8	29.3	29.4
11-20	59.37	27.0	33.4	14	23.0	15, 18	30.1	30.3
21-30	58.24	26.8	33.5	29	22.3	21	29.9	30.0

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	85.2	88.5	6	82.5	8
11-20	82.0	85.0	16	77.5	18
21-30	85.2	91.3	26	81.2	29

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, SEPTEMBER, 1924—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW	2,631.0	395.0	6	30.4	5.6	10
11-20	NE quad.	1,452.5	283.0	11	35.8	4.8	18
21-30	E quad.	1,105.5	158.5	30	30.0	4.6	29

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	38 45	9 05	10	82.1	7
11-20	70 05	9 10	18	14.3	4
21-30	53 55	9 05	29	22.7	6

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	5	3	8	31.08
Filipinos	632	542	1,174	50.73
Spaniards	2	1	3	18.68
Other Europeans	4	1	5	54.06
Chinese	28	30	58	39.55
All others	2	5	7	38.99
Total and average	673	582	1,255	49.61

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	113	107	220	10	1	11	231	74.26
No. 2, Meisic	117	98	215	1	11	12	227	26.20
No. 4, Sampaloc	118	99	217	14	8	22	239	58.21
No. 5, Tondo	209	174	383	14	11	25	408	60.83
No. 6, Paco	74	65	139	3	8	11	150	55.37
Total	631	543	1,174	42	39	81	1,255	49.61

Number of births attended by physicians, living, 244; Stillbirths, 22.
Number of births attended by midwife, living, 153; Stillbirths, 2.
Number of births attended by family, living, 858; Stillbirths, 24.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	1	2	3	11.65
Filipinos	359	276	635	27.44
Spaniards	3	1	4	24.91
Other Europeans	....	1	1	10.81
Chinese	23	2	25	17.05
All others	1	....	1	5.57
Total and average	387	282	669	26.44

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	104	83
Divorced	....	....
Widowed	35	49
Single	310	180
Condition not stated	6	2
Total	455	314
Grand total	769	

Stillbirths	48
Number of deaths with medical attendance	414
Number of deaths without medical attendance	355

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	52	27	1	....	80
30 days to under 1 year	79	35	10	3	127
1 year to under 2 years	33	29	6	4	72
2 years to 4 years	43	43	4	....	90
5 years to 9 years	9	12	2	1	24
10 years to 14 years	4	3	1	....	8
15 years to 19 years	13	9	6	....	28
20 years to 29 years	37	29	13	6	85
30 years to 39 years	25	26	7	5	63
40 years to 49 years	26	18	5	5	54
50 years to 59 years	24	16	3	....	43
60 years to 69 years	16	9	4	4	33
70 years to 79 years	16	15	2	1	34
80 years to 89 years	6	7	2	2	17
90 years to 99 years	4	3	....	....	7
100 years and over	....	1	....	....	1
Age not stated	....	....	....	....	....
Total	387	282	66	31	766

Two (2) males, age 40 years and unknown, respectively, and one (1) female, 70 years of age; permanent residences unknown not included in the foregoig table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rates per 1,000
No. 1, Intramuros	153	21.20
No. 2, Meisic	104	12.00
No. 4, Sampaloc	112	27.28
No. 5, Tondo	306	45.62
No. 6, Paco	94	14.01
Total and average	769	30.40

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			7	6					2				15
4. Malaria			2	1									3
4a. Malarial cachexia									1				1
9. Diphtheria and croup			1										1
10. Influenza			5	4									9
14. Dysentery			5	12	1						1		19
18. Erysipelas			1		1								2
20. Purulent infection and septicæmia			3	1									4
23. Rabies			1										1
24. Tetanus			2	1					1				4
27. Beriberi				1									1
27a. Beriberi, infantile			29	14					1				44
28. Tuberculosis of the lungs			53	61					1				115
30. Tuberculous meningitis			3	6									9
31. Abdominal tuberculosis			2	3									5
33. White swellings			1										1
34. Tuberculosis of other organs				1									1
35. Disseminated tuberculosis			1	1									2
37. Syphilis				1									1
40. Cancer and other malignant tumors of the stomach, liver			1	1					1				3
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1	1								2
47. Acute articular rheumatism				1									1
48. Chronic rheumatism and gout			1						1				2
53. Leuchæmia				1									1
54. Anæmia, chlorosis			1										1
55. Other general diseases			1	1									2
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			9	5									14
(2) Cerebro-spinal meningitis (undefined)				1									1

64. Cerebral hæmorrhage, apoplexy			6	4					1				11
66. Paralysis without specified cause				1									1
67. General paralysis of the insane			1										1
68. Other forms of mental alienation			3	1									4
74. Other diseases of the nervous system				1									1
III. Diseases of the circulatory system													
77. Pericarditis			1										1
78. Acute endocarditis				3									8
79. Organic diseases of the heart			9	3									12
80. Angina pectoris			3	1									4
81. Diseases of the arteries, atheroma, aneurysm, etc.									1				1
IV. Diseases of the respiratory system													
87. Diseases of the larynx			1										1
89. Acute bronchitis			28	16									44
90. Chronic bronchitis			8	4									12
91. Broncho-pneumonia			37	28					2	1			68
92. Pneumonia			7	2									9
93. Pleurisy				4									4
96. Asthma				1									1
V. Diseases of the digestive system													
100. Diseases of the parynx			1										1
102. Ulcer of the stomach			1										1
104. Diarrhœa and enteritis (under 2 years)			14	5					2				21
105. Diarrhœa and enteritis (2 years and over)			10	11					1				22
107. Intestinal parasites			1	1									2
108. Appendicitis and typhlitis			2	1									3
109. Hernias, intestinal obstructions			1	1					2				4
113. Cirrhosis of the liver			1						1				2
115. Other diseases of the liver			1	1									2
117. Simple peritonitis (non-puerperal)								1					1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			6	8						1			15
120. Bright's disease	1		13	15					1				30
122. Other diseases of the kidneys and annexa			1										1
124. Diseases of the bladder									1				1
VII. The puerperal state													
135. Puerperal hæmorrhage				2									2
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			2	1									3
143. Furuncle			1										1
144. Acute abscess			1										1
145. Other diseases of the skin and annexa		2											2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
IX. Diseases of the bones and of the organs of locomotion													
147. Diseases of the joints (tuberculosis and rheumatism excepted)	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)	.....	.....	3	1					1	.....	.....	.....	5
(2) Congenital debility	.....	.....	36	17	.....	.....	.....	.....	.....	.....	.....	.....	53
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	3
XII. Old age													
154. Senility	.....	.....	16	13	.....	1	.....	.....	.....	.....	.....	.....	30
XIII. Affections caused by external causes													
155. Suicide by poison	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
160. Suicide by cutting or piercing instruments	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
167. Burns (conflagration excepted)	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
169. Accidental drowning	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)	.....	.....	4	1	.....	.....	.....	.....	.....	.....	.....	.....	5
183. Homicide by cutting or piercing instruments	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
185. Fractures (cause not specified)	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined	.....	.....	5	1	.....	.....	.....	.....	.....	.....	.....	.....	6
Total	1	2	359	276	3	1	.....	1	23	2	1	.....	669
Grand total	3		635		4		1		25		1		669

Two (2) male, ages unknown, and one (1) female Filipinos, 70 years of age, permanent residences unknown not included in the foregoing table.

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I.—General diseases													
1. Typhoid fever			1	3					1				5
10. Influenza			1										1
14. Dysentery			1	2									3
17. Leprosy			2										2
19. Other epidemic diseases			1										1
20. Purulent infection and septicæmia				1									1
27a. Beriberi, infantile			4	2									6
28. Tuberculosis of the lungs			10	7									17
29. Acute miliary tuberculosis			1										1
30. Tuberculous meningitis			1										1
32. Pott's disease			1										1
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1										1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1									2
59. Other chronic poisonings									1				1
II.—Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			1										1
(2) Cerebro-spinal meningitis (undefined)			3										3
64. Cerebral hæmorrhage, apoplexy			1	1									2
68. Other forms of mental alienation			2										2
III.—Diseases of the circulatory system													
78. Acute endocarditis			1	1					2				4
79. Organic diseases of the heart			1										1
IV.—Diseases of the respiratory system													
89. Acute bronchitis			3							1			4
91. Broncho-pneumonia			4	2									6
92. Pneumonia			2	1									3

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V.—Diseases of the digestive system													
102. Ulcer of the stomach			2										2
104. Diarrhœa and enteritis (under 2 years)			3	1									4
105. Diarrhœa and enteritis (2 years and over)			2										2
109. Hernias, intestinal obstructions				1									1
117. Simple peritonitis (nonpuerperal)			2	1									3
VI.—Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1										1
120. Bright's disease			1	4									5
123. Calculi of the urinary passages			1										1
VIII.—Diseases of the skin and of the cellular tissue													
144. Acute abscess			1										1
XII.—Old age													
154. Senility			1	1									2
XIII.—Affections caused by external causes													
155. Suicide by poison									1				1
157. Suicide by hanging or strangulation											1		1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)				1									1
180. Lightning			1										1
183. Homicide by cutting or piercing instruments			1										1
186. Other external violence			1										1
Total			60	30					5	1	1		97
Grand total			90						6		1		97

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Influenza					2	2
14. Dysentery					3	3
18. Erysipelas					1	1
20. Purulent infection and septicæmia					3	3
24. Tetanus				3		3
27a. Beriberi, infantile	1			10	39	50
37. Syphilis	1					1
55. Other general diseases					1	1
61. Simple meningitis:						
(1) Simple meningitis					5	5
89. Acute bronchitis					26	26
90. Chronic bronchitis					2	2
91. Broncho-pneumonia	1			2	26	29
92. Pneumonia					2	2
93. Pleurisy					1	1
104. Diarrhœa and enteritis					11	11
119. Acute nephritis					1	1
145. Other diseases of the skin and annexa				2		2
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not stillborn)	5					5
(2) Congenital debility	14	4		23	12	53
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	1			1	1	3
186. Other external violence				1		1
189. Causes of death not specified or ill defined		1			1	2
Total	23	5		42	137	207

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	19,980
Number of rats caught by spring traps	3,049
Number of cage-wire traps set	720
Number of rats caught by cage-wire traps	22
Number and kind of baits (coconuts)	20,700
Number of poison portions placed	14,884
Number of rats found poisoned	211
Number of rats killed by clubs, and other weapons	921
Number of rats found dead from other causes	867
Total number of rats otherwise caught, found dead, or killed	5,070
Total number of rats sent to the Laboratory for examination	5,070
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF SEPTEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	6	1	12	4	3	2	7	2	4		7	2	39	11
Female	1	1	6		2	1	7	2	2		8	3	26	7
Home:														
Male														
Female					2	2							2	2
Total:														
Male	6	1	12	4	3	2	7	2	4		7	2	39	11
Female	1	1	6		4	3	7	2	2		8	3	28	9
Grand total	7	2	18	4	7	5	14	4	6		15	5	67	20

REMARKS:

Total cases reported within the month in the City of Manila		89
Resident cases	69	
None-resident cases	20	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		20
Deaths among resident cases	15	
Deaths among non-resident cases	5	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		66
By autopsy	1	
By blood culture	27	
By widal reaction	8	
By urine examination	0	
By feces examination	0	
By clinical symptoms	30	
Confirmed cases as paratyphoid fever		1
Cases not confirmed		22

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF SEPTEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	2	....	3	1	2	2	3	1	....	....	3	1	13	5
Female	....	....	1	1	1	1	1	1	....	....	2	2	5	5
Home:														
Male	....	....	1	....	1	1	1	1	1	1	....	....	4	3
Female	1	1	3	3	1	1	1	1	5	3	....	....	11	9
Total:														
Male	2	....	4	1	3	3	4	2	1	1	3	1	17	8
Female	1	1	4	4	2	2	2	2	5	3	2	2	16	14
Grand total	3	1	8	5	5	5	6	4	6	4	5	3	33	22

REMARKS:

Total cases reported within the month in the City of Manila		33
Resident cases	28	
Non-resident cases	5	
Total deaths reported within the month in the City of Manila		22
Deaths among resident cases	19	
Deaths among non-resident cases	3	
Cases not confirmed as dysentery		0

Dysentery carrier—None.

CHOLERA REPORTED DURING THE MONTH OF SEPTEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases reported within the month in the City of Manila		2
Resident cases	1	
Non-resident cases	1	
Foreign cases	0	
Resident cases not confirmed as cholera	1	
Non-resident cases not confirmed as cholera	1	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	

Cholera carrier—21.

DIPHTHERIA REPORTED DURING THE MONTH OF SEPTEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	1	1	0	0	0	0	1	0	2	1
Female	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	1	1	0	0	0	0	1	0	2	1
Female	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Grand total	0	0	0	0	3	1	0	0	0	0	1	0	4	1

REMARKS:

Total cases reported within the month in the City of Manila		9
Resident cases	7	
Non-resident cases	2	
Resident cases not confirmed as diphtheria	4	
Non-resident cases not confirmed as diphtheria	1	
Total deaths reported within the month in the City of Manila		1
Deaths among resident cases	1	
Deaths among non-resident cases	0	

Diphtheria carrier—7.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	9	3	3	1
Varioloid				
Varicella	2	1		
Smallpox				
Measles	1			
Whooping cough				
Influenza	20	12	5	4
Bubonic plague				
Beriberi, adult		1		1
Beriberi, infantile	30	14	30	14
Pulmonary tuberculosis	110	95	54	61
Tuberculosis of all forms	7	11	7	11
Encephalitis lethargica				

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	[1]10		[1]1	
Varioloid				
Varicella	1			
Smallpox				
Measles				
Whooping cough				
Influenza	5	1	1	
Bubonic plague				
Beriberi, adult	2			
Beriberi, infantile	4	2	4	2
Pulmonary tuberculosis	25	15	11	7
Tuberculosis of all forms	2		2	
Encephalitis lethargica	1			

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[1] One (1) permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF SEPTEMBER, 1924

Sera and vaccines	On hand September 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diptheric serum (units)	655,000	1,000,000	1,655,000	315,000	1,340,000
Anti-dysenteric serum (ampoules)	150	150	300	155	145
Anti-tetanic serum (units)		661,000	661,000	161,000	500,000
Cholera vaccine (c.c.)	8,720	9,000	17,720	15,300	2,420
Dried vaccine virus (units)		40,000	40,000	39,600	400
Fresh vaccine virus (units)	4,400	224,000	228,400	170,900	57,500
Gonococcus vaccine (ampoules)		150	150	150	
Mixed cholera-typhoid vaccine (c.c.)	11,780	95,270	107,050	89,880	17,170
Normal horse serum (ampoules)		25	25	25	
Typhoid vaccine (c.c.)		6,000	6,000	180	5,820

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1924

Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Intramuros	139	117	2	20
Meisic	2,481	185	2,091	205
Sampaloc	1,679	145	1,485	49
Tondo	908	278	583	47
Paco	949	163	742	44
Total	6,156	888	4,903	365

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER 1924—Continued

Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Intramuros	134	23	......	......	......	......	134	23
Meisic	193	19	2	2	......	......	195	21
Sampaloc	123	17	309	176	......	......	432	193
Tondo	275	38	381	206	......	......	656	239
Paco	143	16	192	97	......	......	335	113
Total	868	108	884	481	......	......	1,752	589

Vaccine virus:	
Received	11,600
Used	7,600
Remained	4,000

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1924

Districts	Males who received:					
	First injections		Second injections		Third injections	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	......	......	......	......	4	1
No. 2, Meisic	......	......	......	......	27	......
No. 4, Sampaloc	......	......	......	......	10	......
No. 5, Tondo	......	......	......	......	6	......
No. 6, Paco	......	......	......	......	......	3
Division of communicable diseases	......	......	......	......	1,407	2,093
Total	......	......	......	......	1,454	2,097

Districts	Females who received:					
	First injections		Second injections		Third injections	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	......	......	......	......	4	......
No. 2, Meisic	......	......	......	......	59	......
No. 4, Sampaloc	......	......	......	......	1	......
No. 5, Tondo	......	......	......	......	34	......
No. 6, Paco	......	......	......	......	1	2
Division of communicable diseases	......	......	......	......	591	1,505
Total	......	......	......	......	690	1,507

Districts	Total number injected					
	First		Second		Third	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	......	......	......	......	8	1
No. 2, Meisic	......	......	......	......	86	......
No. 4, Sampaloc	......	......	......	......	11	......
No. 5, Tondo	......	......	......	......	40	......
No. 6, Paco	......	......	......	......	1	
Division of communicable diseases	......	......	......	......	1,998	3,598
Total	......	......	......	......	2,144	3,604

NOTE.—V, means persons never been vaccinated; R. revaccinations.
For first and second injections, see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF SEPTEMBER, 1924

Districts	Males receiving:					
	First injections		Second injections		Third injections	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	1	6	4	3		
No. 2, Meisic	28		39			
No. 4, Sampaloc	23		19			
No. 5, Tondo	23		12			
No. 6, Paco	4	4	2	2		
Division of communicable diseases	2,427	2,859	1,840	2,110		
Total	2,506	2,869	1,916	2,115		

Districts	Females receiving:					
	First injections		Second injections		Third injections[1]	
	V.	R.	V.	R.	V.	R
No. 1, Intramuros	2	4	2	1		
No. 2, Meisic	36		57			
No. 4, Sampaloc	5		3			
No. 5, Tondo	89		53			
No. 6, Paco	1	1				
Division of communicable diseases	1,028	1,483	805	1,488		
Total	1,161	1,488	920	1,489		

Districts	Total number injected					
	First		Second		Third	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	3	10	6	4	[1]	[1]
No. 2, Meisic	64		96			
No. 4, Sampaloc	28		22			
No. 5, Tondo	112		65			
No. 6, Paco	5	5	2	2		
Division of communicable diseases	3,455	4,342	2,645	3,598		
Total	3,667	4,357	2,836	3,604		

NOTE.—V, means persons never been vaccinated; R, revaccinations.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	10,167	1,809	5,533	2,825
Agusan	5,848	1,405	2,066	2,377
Albay	81,480	12,560	44,445	24,475
Antique	14,964	7,321	3,809	3,834
Bataan	6,880	818	3,739	2,323
Batanes	2,543	354	975	1,214
Batangas	77,733	12,247	47,474	18,012
Bohol	148,945	26,460	74,193	48,292
Bukidnon	3,375	470	1,486	1,419
Bulacan	24,330	7,184	8,943	8,203
Cagayan	24,678	7,886	7,544	9,248
Camarines Norte	4,662	2,050	1,389	1,223
Camarines Sur	5,463	1,347	2,174	1,942
Capiz	30,711	11,828	8,638	10,245
Catanduanes	9,004	3,342	1,480	4,182
Cavite	25,569	7,375	5,586	12,608
Cebu	55,554	20,402	12,916	22,236
Cotabato	12,306	3,847	3,069	5,390
Culion Leper Colony	503	49	402	52
Davao	3,666	1,835	886	945
Ilocos Norte	66,731	10,330	36,347	20,054
Ilocos Sur	30,868	5,592	14,869	10,407
Iloilo	63,998	23,326	22,753	17,919
Isabela	8,104	2,606	2,429	3,069
Laguna	28,599	5,964	10,750	11,885
Lanao	6,994	924	4,458	1,612
Leyte	38,904	11,099	15,126	12,679
La Union	59,124	10,147	35,588	13,389
Marinduque	8,196	1,660	3,856	2,680
Masbate	9,031	2,979	2,797	3,255
Mindoro	5,527	1,319	2,387	1,821
Misamis	15,356	4,485	4,737	6,134
Mountain Province	20,676	5,444	9,142	6,090
Nueva Ecija	22,634	5,514	6,809	10,311
Nueva Vizcaya	9,260	1,281	4,449	3,530
Occidental Negros	44,524	21,633	11,053	11,838
Oriental Negros	27,598	5,262	12,476	9,860
Palawan	4,533	1,730	1,861	942
Pampanga	125,455	18,960	101,254	5,241
Pangasinan	73,629	22,837	12,812	37,980
Rizal	30,814	6,240	16,424	8,150
Romblon	9,907	2,751	2,593	4,563
Samar	80,908	16,328	49,660	14,920
Sorsogon	14,221	4,785	4,898	4,538
Sulu	7,296	3,417	1,898	1,981
Surigao	5,436	1,659	2,127	1,650
Tarlac	19,020	3,423	10,589	5,008
Tayabas	33,178	9,490	13,089	10,600
Zambales	7,129	1,361	3,660	2,107
Zamboanga	25,878	9,065	12,608	4,205
Total	1,451,909	352,200	670,246	429,463

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[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	634	162	1,584	902	2,446	3,662	4,664	4,726
Agusan	143	106	301	300	456	619	900	1,025
Albay	4,403	1,465	7,731	3,899	24,378	14,019	36,512	19,383
Antique	1,612	349	3,873	1,323	2,913	1,891	8,398	3,563
Bataan	558	171	1,273	896	1,938	1,950	3,769	3,017
Batanes	217	76	283	141	980	561	1,480	778
Batangas	3,594	786	7,103	1,529	16,574	11,896	27,271	14,211
Bohol	4,556	747	16,339	3,992	54,601	32,252	75,496	36,991
Bukidnon	22	13	129	169	501	850	652	1,032
Bulacan	2,911	400	5,220	1,550	5,481	3,327	13,612	5,277
Cagayan	2,864	497	5,671	1,412	7,255	3,862	15,790	5,771
Camarines Norte	488	110	1,152	896	1,333	698	2,973	1,204
Camarines Sur	386	230	997	592	1,477	951	2,860	1,773
Capiz	2,099	478	5,307	1,800	9,326	6,234	16,732	8,512
Catanduanes	1,510	407	1,753	769	1,047	826	4,310	2,002
Cavite	3,268	456	5,272	1,169	10,826	4,413	19,366	6,038
Cebu	6,255	3,505	9,054	3,266	6,696	5,747	22,005	12,518
Cotabato	153	202	684	1,030	1,366	3,181	2,203	4,413
Culion Leper Colony	12	2	18	11	181	102	211	115
Davao	196	70	382	200	1,326	1,183	1,904	1,453
Ilocos Norte	2,890	531	7,984	2,134	20,938	21,901	31,812	24,566
Ilocos Sur	1,501	216	4,537	1,471	9,629	7,673	15,667	9,360
Iloilo	6,721	1,094	13,331	2,599	17,418	9,768	37,470	13,461
Isabela	234	203	1,221	1,267	1,783	2,025	3,238	3,495
Laguna	1,557	443	3,649	1,442	6,827	9,703	12,033	11,588
Lanao	288	38	944	185	1,580	1,108	2,812	1,331
Leyte	2,086	996	6,008	1,935	5,544	3,591	13,638	6,522
La Union	2,386	465	6,802	2,599	13,724	11,249	22,862	14,313
Marinduque	428	187	957	285	2,613	1,393	3,998	1,865
Masbate	283	126	1,014	379	1,968	1,666	3,265	2,171
Mindoro	243	53	800	232	1,687	1,255	2,730	1,540
Misamis	539	323	1,405	1,015	3,699	2,503	5,643	3,841
Moutain Province	930	223	3,228	1,268	5,047	3,159	9,205	4,650
Nueva Ecija	3,806	651	2,534	1,580	4,874	5,189	11,214	7,420
Nueva Vizcaya	702	119	1,950	388	4,176	1,481	6,828	1,988
Occidental Negros	7,761	1,819	10,331	4,041	6,989	3,388	25,081	9,248
Oriental Negros	1,999	691	5,434	2,238	8,233	6,230	15,666	9,159
Palawan	190	26	623	214	2,024	309	2,837	549
Pampanga	4,676	545	10,899	2,850	36,498	40,693	52,073	44,088
Pangasinan	11,143	2,162	17,592	5,581	15,746	11,993	44,481	19,736
Rizal	2,833	749	3,706	2,053	6,783	7,552	13,322	10,354
Romblon	509	203	1,264	848	2,302	2,074	4,075	3,125
Samar	1,857	752	9,109	3,305	23,776	11,057	34,742	15,114
Sorsogon	1,341	616	2,297	1,241	3,877	2,880	7,515	4,737
Sulu	365	102	1,329	519	2,581	1,460	4,275	2,081
Surigao	93	64	509	321	1,289	1,435	1,891	1,820
Tarlac	1,962	487	2,362	1,748	4,170	6,450	8,494	8,685
Tayabas	2,519	682	5,913	1,801	11,636	5,821	20,068	8,304
Zambales	645	225	673	442	932	1,937	2,250	2,604
Zamboanga	416	436	1,536	1,299	4,044	7,032	5,996	8,767
Total	98,734	25,459	204,067	72,626	383,488	292,199	686,289	390,284

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1921 [1]

Provinces	Males receiving:					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	7,920	6,217	386	311	....	....
Antique	70	60	30	40	....	....
Batangas	16,842	11,691	307	281	....	....
Bulacan	2,958	4,517	....	....	....	....
Catanduanes	26	25	....	....	....	....
Cebu	231	65	194	86	....	....
Iloilo	73	33	24	8	....	....
Isabela	9	....	....	....	....	....
Laguna	983	725	364	160	....	....
Mindoro	13	8	....	....	....	....
Pampanga	296	245	174	123	....	....
Pangasinan	1,920	2,358	792	1,519	....	....
Rizal	440	40	399	40	....	....
Sorsogon	43	31	....	....	....	....
Total	31,824	26,015	2,670	2,568	....	....

Provinces	Females receiving:						Total number injected		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	7,308	5,430	463	127	....	....	26,875	1,287	....
Antique	25	30	40	20	....	....	185	130	....
Batangas	17,486	10,622	303	209	....	....	56,641	1,100	....
Bulacan	2,675	3,525	....	....	....	....	13,675	....	....
Catanduanes	13	20	....	....	....	....	84	....	....
Cebu	329	78	224	83	....	....	703	587	....
Iloilo	42	24	8	10	....	....	172	50	....
Isabela	10	2	....	....	....	....	21	....	....
Laguna	838	591	354	126	....	....	3,137	1,004	....
Mindoro	9	6	....	....	....	....	36	....	....
Pampanga	333	170	176	79	....	....	1,044	552	....
Pangasinan	1,991	2,318	944	1,455	....	....	8,587	4,710	....
Rizal	283	19	225	41	....	....	782	705	....
Sorsogon	29	17	....	....	....	....	120	....	....
Total	31,371	22,852	2,737	2,150	....	....	112,062	10,125	....

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[1] Incomplete, report from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Males receiving:					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	88	39	44	21	26	5
Batangas	11	39	......	3	......	......
Bulacan	1,567	892	1,228	700	931	530
Camarines Sur	810	323	264	80	73	29
Catanduanes	85	4	83	4	1	......
Iloilo	125	61	106	41	76	30
Laguna	2,520	946	1,284	450	725	152
Mountain Province	576	184	117	31	94	10
Misamis	37	5	......	......	......	......
Nueva Ecija	676	465	306	263	73	84
Pampanga	1,291	1,380	837	920	329	518
Pangasinan	693	510	262	217	77	102
Rizal	531	219	353	98	338	87
Romblon	101	247	7	9	1	......
Tarlac	......	......	......	......	8	......
Total	9,123	5,318	4,897	2,842	2,772	1,611

Provinces	Females receiving:						Total number injected		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	18	45	29	31	147
Albay	52	62	17	35	5	14	241	117	50
Batangas	22	21	4	3	......	......	93	10	......
Bulacan	1,664	914	1,357	724	1,058	552	5,037	4,009	3,071
Camarines Sur	633	231	232	109	58	25	1,997	685	185
Catanduanes	111	5	110	5	......	......	205	202	1
Iloilo	94	58	72	41	51	28	338	260	185
Laguna	2,880	1,111	1,734	456	1,103	292	7,457	3,924	2,272
Mountain Province	169	15	79	17	70	11	944	244	185
Misamis	20	7	......	......	......	......	69	......	......
Nueva Ecija	345	486	237	308	86	61	1,972	1,114	304
Papamga	1,299	1,161	957	840	308	396	5,131	3,554	1,551
Pangasinan	697	455	296	210	58	66	2,355	985	303
Rizal	525	148	317	95	324	68	1,423	863	817
Romblon	44	184	24	26	1	......	576	66	2
Tarlac	......	......	......	......	14	1	......	......	23
Total	8,567	4,859	5,447	2,878	3,154	1,559	27,867	16,064	9,096

[1] Incomplete, report from other provinces not yet received.
A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Males receiving:					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	42	68	134	64	....	....
Albay	2	2	....	....	....	....
Antique	1,098	1,096	478	704	....	....
Bataan	357	40	112	16	....	....
Batanes	196	336	....	....	....	....
Batangas	3,891	2,839	1,645	1,179	....	....
Bohol	....	....	175	....	....	....
Bulacan	613	780	692	675	....	....
Cagayan	1,482	782	727	585	....	....
Camarines Norte	498	45	164	....	....	....
Camarines Sur	92	67	45	45	....	....
Capiz	1,562	770	496	218	....	....
Cavite	3,350	4,140	2,186	2,928	....	....
Cebu	1,249	194	679	76	....	....
Cotabato	122	2	....	....	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	2,271	1,874	601	418	....	....
Ilocos Sur	1,312	315	1,814	331	423	16
Iloilo	684	408	495	262	....	....
Isabela	172	22	116	18	....	....
Laguna	1,405	782	324	61	....	....
Lanao	21	....	7	....	....	....
La Union	2,177	720	1,377	814	....	....
Marinduque	788	564	786	886	....	....
Masbate	222	191	167	165	....	....
Mindoro	79	36	49	10	....	....
Misamis	933	600	278	121	....	....
Mountain Province	180	685	14	4	....	....
Nueva Ecija	1,144	782	590	790	....	....
Nueva Vizcaya	280	192	219	192	....	....
Occidental Negros	1,435	414	691	200	....	....
Oriental Negros	1,132	2,064	322	574	....	....
Palawan	70	....	....	....	....	....
Pampanga	2,994	3,700	1,876	2,558	67	190
Pangasinan	4,913	3,771	3,408	2,509	....	....
Rizal	3,627	1,298	2,365	979	....	....
Romblon	33	6	11	....	....	....
Samar	....	26	80	....	....	....
Sorsogon	272	471	26	5	....	....
Sulu	103	8	....	....	....	....
Surigao	248	165	164	107	....	....
Tarlac	1,453	1,443	691	913	....	....
Tayabas	2,478	896	738	544	....	....
Zambales	827	948	753	706	....	....
Zamboanga	377	186	....	....	....	....
Total	46,148	33,711	25,430	19,402	490	206

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[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Females receiving:						Total number injected		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	33	100	97	99	......	......	243	394	......
Albay	4	1	......	......	......	......	9	......	......
Antique	1,331	1,003	466	560	......	......	4,528	2,208	......
Bataan	237	31	106	10	......	......	665	244	......
Batanes	81	193	......	......	......	......	806	......	......
Batangas	4,138	2,484	1,565	934	......	......	13,352	5,323	......
Bohol	......	......	147	......	......	......	......	322	......
Bulacan	560	543	350	522	......	......	2,496	2,239	......
Cagayan	929	587	618	343	......	......	3,680	2,023	......
Camarines Norte	357	23	71	17	......	......	923	242	......
Camarines Sur	57	78	25	40	......	......	294	155	......
Capiz	1,081	584	374	77	......	......	3,997	1,165	......
Cavite	2,567	3,040	1,645	2,148	......	......	18,097	8,907	......
Cebu	928	244	472	106	......	......	2,615	1,338	......
Cotabato	28	5	......	......	......	......	157	......	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	2,337	1,820	722	499	......	......	8,302	2,235	......
Ilocos Sur	806	296	1,182	283	248	6	2,729	3,610	693
Iloilo	423	395	360	338	......	......	1,910	1,455	......
Isabela	144	17	120	12	......	......	355	266	......
Laguna	1,234	551	412	73	......	......	3,972	870	......
Lanao	15	......	2	......	......	......	36	9	......
La Union	1,472	685	957	472	......	......	5,054	3,620	......
Marinduque	756	758	508	780	......	......	2,866	2,960	......
Masbate	149	245	112	123	......	......	807	567	......
Mindoro	54	28	6	2	......	......	197	67	......
Misamis	618	458	202	133	......	......	2,609	729	......
Mountain Province	104	196	5	3	......	......	1,165	26	......
Nueva Ecija	435	348	407	679	......	......	2,709	2,466	......
Nueva Vizcaya	188	112	153	111	......	......	772	675	......
Occidental Negros	1,122	510	647	275	......	......	3,481	1,818	......
Oriental Negros	836	1,265	355	467	......	......	5,297	1,718	......
Palawan	......	......	......	......	......	......	70	......	......
Pampanga	2,590	2,495	1,599	1,818	94	179	11,779	7,851	530
Pangasinan	4,484	3,778	2,942	2,473	......	......	16,946	11,332	......
Rizal	1,986	1,035	1,643	725	......	......	7,946	5,712	......
Romblon	36	13	......	......	......	......	88	11	......
Samar	......	37	......	18	......	......	63	48	......
Sorsogon	178	429	24	7	......	......	1,350	62	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	52	31	210	115	......	......	496	596	......
Tarlac	770	1,103	317	647	......	......	4,769	2,568	......
Tayabas	1,814	626	567	224	......	......	5,814	2,073	......
Zambales	660	757	635	597	......	......	3,192	2,691	......
Zamboanga	205	132	......	......	......	......	900	......	......
Total	35,833	27,065	20,023	15,730	342	185	142,757	80,585	1,223

[1] Incomplete, reports from other provinces not yet received.

A means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALL-POX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF SEPTEMBER, 1924

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF SEPTEMBER, 1924

(No case and no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF SEPTEMBER, 1924

	Health districts					Total
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending September 1, 1924:						
Minor	55	35	26	45	31	192
Sewer	10	58	10	13	2	93
Vacating	5	8	3	9	18	43
Filling	7	11	14	6	4	42
Total	77	112	53	73	55	870
Orders issued during the month:						
Minor	8	26	9	2	5	50
Sewer	....	2	....	....	....	2
Vacating	....	....	1	....	....	1
Filling	....	....	....	....	1	1
Total	8	28	10	2	6	54
Grand total	85	140	63	75	61	424
Orders completed during the month:						
Minor	3	12	7	2	1	25
Sewer	....	2	1	1	....	4
Vacating	4	....	....	....	2	6
Filling	....	....	....	....	....	....
Total	7	14	8	3	3	35
Orders cancelled during the month:						
Minor	....	....	....	....	....	....
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	....	....	....	....	....	....
Orders pending September 30, 1924:						
Minor	60	49	28	45	35	217
Sewer	10	58	9	12	2	91
Vacating	1	8	4	9	16	88
Filling	7	11	14	6	5	43
Total	78	126	55	72	58	889
Strong material plans approved:						
New buildings including additions and alterations	27	20	32	26	10	115
Permits for minor building construction:						
Approved	16	26	21	43	2	108
Disapproved	....	6	3	16	....	25
New buildings completed	8	8	15	16	7	54
Light and mixed material construction:						
Permits approved	7	....	34	32	16	89
Permits disapproved	4	....	1	9	9	23
Total number of building projects passed upon	62	60	106	142	44	414
Prosecutions:						
Convictions	....	1	....	....	....	1
Dismissals	....	....	....	1	....	1
Amount of fines	....	₱5.00	....	....	....	₱5.00
Plumbing permits issued	29	40	70	46	18	208
Plumbing projects completed	29	56	42	43	13	183
Premises connected to the sanitary sewer to August 31, 1924	1,756	2,926	1,125	617	441	6,865
Premises connected during September, 1924	4	8	5	5	2	24
Total	1,760	2,934	1,130	622	443	6,889

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

Medical Lib

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. IV OCTOBER, 1924 No. 10

Entered at the Manila Post Office as second-class matter

For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir RONALD ROSS.

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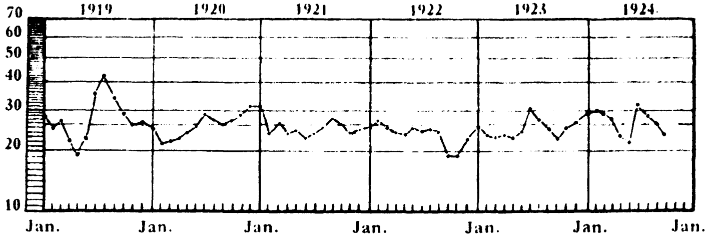
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



——.—.— Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1924

208718

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SHOULD THE RED LIGHT DISTRICT BE REOPENED?[1]

By SIXTO Y. OROSA, M. D.

I have been requested to give you my personal views regarding the proposed reopening of the Red Light District. To the question, "Should the Red Light District be Reopened?," my reply is decidedly "No!" Here are my reasons: The reopening of the district will mean

1. The establishment of a center of immorality,
2. The sanction of prostitution,
3. The legalization of a vice,
4. The exploitation of the flesh traffic, and
5. The creation of another focus of infection.
6. There are much better and surer means of controlling and eradicating venereal diseases than by merely reopening the district.

That the Red Light District is a center of immorality, no one will question. There prostitution is sanctioned, the indulgence in unnecessary, sexual relation is encouraged, and the basest of the vices and the exploitation of the flesh traffic are legalized. How can our sense of morality look upon the reopening of the district with favor? Those advocating its reopening claim it would give the Government some income. Have we lost our sense of proportion to the extent of sacrificing morality for a few pesos? Would not our government rather remain poor but moral?

Who are the girls and women who are corrupted in that souless district where crime, sin, and lust are indulged in? Surely, they must be somebody's daughters, sisters, or perhaps mothers. How we can consider the sanction and legalization of such a public disgrace of a goodly number of our women, is more than I can conjecture. Some of those favoring the reopening of the District claim that to satisfy one's sexual instinct is a necessity. My reply is, not to the extent of exposing our women to public shame. Sexual relations are intended for the continuation of the offspring and not for the indulgence in lust and vice. A person can remain perfectly normal for life without satisfying what is unfortunately called by others a necessity. We are trying to preach to our young men to be sexually clean and abstinent. How can we do it when with a Red Light District the Government will be practically pointing to them the place where they can indulge in lust and vice? Have we lost faith in our Christian principles? Have we come to the conclusion that our young men and young women cannot be educated along the lines of sex-hygiene? That they must remain sexual perverts, unprincipled, unrestrictable? That they can not be susceptible of improvement, that they must remain forever unbridled, sinners, and criminals? To quote Goodell,

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[1] Read before the University branch Y. M. C. A. on July 19, 1924 at the University Hall.

> The sexual instinct has been given to man for the perpetuation of his species; but in order to refine this gift and to set limits to its abuse, it has been wisely ordered that a purely intellectual quality—that of love—should find its most passionate expression in the gratification of this instinct. Dissociate the one from the other, and man sinks below the level of the brute. * * *.
>
> Without suffering some penalty man cannot disturb the conditions of his well-being or trespass beyond its limitations. Let him traverse her physical laws and nature exacts a forfeit; dare he violate his moral obligations, an offended Deity stands ready to avenge them. * * *.

Again those in favor of the reopening claim that Manila is an open port, that the mariners making a call at our city must have some place of entertainment and so on. Let me ask you, are we going to prostitute our women for the sake of these visitors? Dare you answer yes? •

Section 8, paragraph (*p*) of Act 2774 empowers the Municipal Board to provide for the prohibition and suppression of * * * houses of *ill fame* and other disorderly houses.

Paragraph (*ee*) of the same Act vests the Board with power to enact ordinances to promote morality, etc.

Section 733 of the Revised Ordinances of the City of Manila penalizes any person who keeps a house of public gambling or of prostitution.

The intent of the law seems clear. However, some legalists have come to the conclusion that the City of Manila may legally establish houses of prostitution in a segregated district. How the technicalities of the law have been twisted to serve their purposes, is more than I comprehend. In other words, if the Red Light District conducted by the Government is allowed by law, the Government would prohibit private persons from conducting "houses of ill fame" but would at the same time monopolize this very *"honorable"* and lucrative business. The tendency in advanced and progressive Christian nations is to close these houses of ill repute. Are we going backward here in the Philippines?

I shall now try to show that the opening of the district would only create another focus of infection, and that there are much better and surer means of controlling and eradicating venereal diseases than by the mere reopening of the District. Many indeed are disillusioned with the idea that the reopening of the District will decrease venereal diseases. I contend that it will not. The practice has been to medically examine the prostitutes once a week. For one thing these women generally know when the physician is coming and they employ means (irrigation, for example) to defeat the end of the inspection. Supposing a woman was examined today and declared negative by the examining physician. One hour or several days after the inspection a man with gonorrhea comes to use her. She certainly gets infected, and she surely will transmit the infection to the next man patronizing her before her disease is discovered. You will be told that the so-called prophylactic stations will obviate these dangers. I again maintain that these prophylactic stations are at best a palliative and a camouflage. Experienced physicians will tell you that a man can harbor gonococcus (and transmit it) for twenty or more years without having any apparent discharge or symptoms. They will tell you that sometimes it is very difficult to discover gonococci with the best laboratory means. How can such cases be discovered at the prophylactic stations where the examinations are at best cursory and superficial? Another opportunity for graft and bribery will be created in these stations.

The reopening of the district will not decrease the number of the clandestine prostitutes. A number, not to say many, apparently decent women, posing elegantly and even luxuriously are engaged in clandestine prostitution. These women certainly will not "lower" themselves by going to the district and be branded public prostitutes. And many of the so-called decent men, some of them of high standing in the community, will seek to satisfy themselves not by going to an open or public district but by looking for a clandestine prostitute. Only the lowest kind of women, those whose souls have been completely lost, would sell themselves publicly in an open district. It is therefore reasonable to presume that the opening of one or more Red Light Districts will not decrease, certainly it will not stop clandestine prostitution. The opening of a district will only mean adding an evil to another.

The incidence of the venereal diseases in the City of Manila during the last five years is not alarming. From what statistics (appended) I have been able to gather during the last few days I was not impressed that there has been such a marked yearly increase in the morbidity from venereal diseases as alarmists would have us believe. Several prominent physicians specialists in the diseases of the genito-urinary system told me they did not notice any appreciable increase or decrease in the incidence of venereal diseases in their practice. Even supposing that there has been an apparent increase the following factors easily explain it:

(1) There were no venereal clinics before the Red Light District was closed.

(2) The people become better educated to go to the venereal clinics or to private physicians.

(3) The sentiment against venereal diseases becomes stronger.

(4) Registration of the cases becomes more effective.

I said there are better and surer means of controlling and suppressing the venereal diseases and the sex-evils than by the mere opening of a district of immorality. As this is an extensive topic I can only mention a few. I propose

(1) Education in sex-hygiene (*a*) by means of a system of lectures, demonstrations, posters, literature, house-to-house visits, personal talks, etc., by health officers and social and welfare workers; (*b*) by teaching the subject in our schools. No matter how our curriculum may be crowded, such an important and indispensable subject as sex-hygiene should find a place in our schools. Our parents ought to be told that it is their duty to acquaint their children with the traps of evil and the stumbling blocks of nature. Of course before they can do it they should themselves know the dangers and pitfalls of sex-ignorance.

(2) Legislation against prostitution. We have no law at present declaring prostitution ilegal. Prostitution and prostitute should be defined in our statute-books in such a way as to make conviction possible and easy. In certain places the presence of a venereal disease in a woman without evident means of livelihood is considered a *prima facie* evidence that she is engaged in prostitution. Then a rigid campaign against clandestine prostitution is possible.

(3) Opening of an adequate number of venereal clinics with varying hours for treatment in order that the same may not be in conflict with the hours of work.

(4) Closure of dance halls which only serve as foci of vice and disease.

(5) To declare venereal diseases reportable, quarantinable, hospitalazable, and subject to compulsory treatment. Vocational therapy of the patients.

(6) Requirement of a certificate of health of all employees and school children. Certainly, the Government has a right to require that its empoylees and students be of high morality and to possess good health. All those having venereal diseases should be excluded from employment or from the schools until they are cured. Repeated recurrences of the diseases should debar them from employment.

(7) Censorship of obscene cine films.

(8) Prohibition of bawdy side shows in the carnival, theaters, and other places of entertainment.

(9) Establishment of wholesome or educational centers of entertainment. Encouragement of athletics.

(10) Opening of more public libraries where only good books, magazines will be allowed.

(11) A more active campaign against the vice by the church, the press, social agencies, volunteers, etc.

(12) Public condemnation of the double standard of morality.

If we have not lost faith in our Christian principles, if we have not lost faith in our young manhood and womanhood, if we have faith in our gradual evolution towards our physical, moral, and spiritual betterment, then let us hope that legalized centers of vice and immorality will no longer be needed, and that venereal diseases and prostitution will cease to be a menace and that they will disappear from our beautiful and beloved Philippines.

EXPERIENCES IN COLLECTING LEPERS

By TEOFILO CORPUS

Medical Inspector, P. H. S.

The usual procedure for the collection of lepers is to follow the schedule of the ports of call as prepared by the Philippine Health Service. The duration of this work is from three weeks to a month, the collection covering the north and south of the Archipelago and including northern Luzon, the Bicol provinces, the Visayan islands, and Mindanao and Sulu. It may be possible to make several trips and to collect a sufficient number of lepers at a time. Ordinarily, 150 to 250 lepers are collected in each trip, according to the capacity of the steamer.

The personnel for the collection of lepers is composed of one physician in charge, one bacteriologist (detailed from the Bureau of Science), two nurses (male and female), one clerk, and two attendants from San Lazaro Hospital.

The instructions given to the physician in charge are as follows:

A telegram should be sent by the officer in charge from each point which he touches to the district health officer of his next port of call. When the "leper boat" will call at two or more ports on the same day, all these destinations should be reported by telegraph on the preceding day.

On arrival, prompt steps should be taken for the examination of the lepers, both clinically and microscopically; and as soon as the work is done, the lepers should be transferred to the ship at once. There should be no unreasonable delay in the performance of this work.

Care should be exercised that the lepers only come aboard the boat by the long gangway, which must be disinfected at each port when the lepers are on board.

Sailors and other persons, who have no affairs to attend to aboard, will not be permitted to come in contact with the lepers longer or oftener than what is absolutely necessary in their actual transfer to the boat, and the San Lazaro attendants should always be ready wih a bucket of disinfectant so that the sailors may disinfect their hands and feet immediately after they have performed their duties in connection with the lepers.

The lepers will be fed three times a day: at breakfast—hardtack, coffee, and milk; at dinner—stew; at supper—stew.

Care should be taken to see to it that all lepers get a sufficient quantity of food, and the physician should visit them several times each day to see that they are properly cared for and that there is no just reason for complaint. He should be especially careful to see that each one gets a sufficient quantity of food.

Care should be taken that no food is wasted and none of it is stolen.

A quantity of aromatic sulphuric acid (one per cent dilution) is sent along. One teaspoonful of this one per cent dilution may be given to the lepers twice a day after meals; this drug is a preventive of diarrheal disturbances and cholera. There is also sent a quantity of *Bautista's* (Ariston) *mixture.*

Each district health officer should furnish the officer incharge with a descriptive list of all lepers received by him. This list should be prepared and made ready.

The clerk should keep a careful record of the lepers received, showing (1) number, (2) name, (3) town, (4) barrio, (5) age, (6) sex, (7) civil condition, whether married, widowed, a child, etc., (8) result of clinical diagnosis, positive or negative, (9) result of bacteriological examination, positive or negative. This list should be made in quadruplicate, and one copy should be left at the Culion Leper Colony and three copies should be furnished this office.

The night before arrival at Culion, all lepers should be vaccinated. This work may be done by the San Lazaro attendants under the supervision and direction of the doctor, who will oversee the work and see that no undue risks are taken by the attendants.

A medicine-chest is on board to contain the medicines, surgical instruments, vaccine lancets, alcohol lamps, etc. Five thousand units of vaccine virus are in the ship's icebox. This supply may be distributed to the district health officers who may need them, and a small quantity should be reserved for use by the lepers. Any balance on hand may be turned over to the Chief of the Culion Leper Colony.

The boat should be carefully cleaned and disinfected after leaving Culion.

The physician in charge should telegraph this office from Mariveles regarding the probable time of arrival at Manila.

The captain navigates the ship and is responsible for her safety. He should be consulted, but should not be permitted to interfere with the proper execution of the work of collection.

Persons from the Culion Leper Colony may be permitted to go on board to come to Manila, upon presentation of passes from the Chief of the Colony.

In previous leper collection, no female nurse was included in the personnel. It was only in the last trip when a woman nurse was asked for, because of the observation that female lepers, during a sea trip, get sick. In this last collection, one sick female leper remarked: "Will you send for a female nurse?" But the physician in charge had to tell her frankly that only a male nurse was on board! Now, the presence of one female nurse in any leper collection will be a soothing balm for these unfortunate women, who will feel that they can fare better with nurses of their own sex. So a female nurse was asked for.

The segregation of Moro lepers at the Culion Leper Colony must be done in a tactful way. A peaceful policy must be adopted; and if it is not very necessary, the capture of Moro lepers should not be done for fear that it may cause an unfavorable effect on several datus and their followers who may rise up in arms at any time. The district health officer should not use much force in this work; and in order to avoid any possible feeling of resentment towards the Philippine Health Service, the segregation must be effected in a way to suit the moro leaders.

It is believed that the practice of gathering lepers by the police and constabulary soldiers should be abolished. This method gives a bad impression on the public and on the lepers as well. Lepers are not criminals. As has been experienced, there were only very few escapes. The guards should only be used in some exceptional cases, such as in dealing with leper criminals and insane lepers, those who have already made several escapes, and those having bad records.

The physician in charge as well as the nurses and attendants should be as amiable as possible with the lepers on board. If the lepers fall ill, they should be attended medically without delay. If they complain about the food, the same attention should be given. All possible accommodation must be provided. They must be pleased, and they must be made to "feel at home." This attitude will undoubtedly banish from their minds the sad impression that they are being taken away, contrary to their will, from their homes and their sufferring families who are dearest to the heart. They must be given comfort and consolation to avoid the psychological dejection to which their fate seems to plunge all lepers.

On board, when they see that they are everybody's equal, you always meet them with smiling faces. The fact that they will be brought to Culion will not then be burden to them. On their arrival, they will undoubtedly feel that Culion will be an ideal place for them to live in,—a feeling which was observed in previous leper collections.

When a leper dies on board, he should be reported to the fiscal, the justice of the peace, or the municipal president of the next port of call for the necessary investigation and the proper certification of death, the dead body to be buried at that point. If he dies between the last point of call and Culion, the cadaver should be brought to Culion for burial. If he dies between two points where the next point will not be reached within 24 hours, the cadaver should be buried at sea, the case reported, and the certificate of death issued for the proper record of the Culion Leper Colony, or the Philippine Health Service.

If a leper throws himself overboard, he has to be searched for. If the body can no longer be recovered, the incident has to be reported to the Director of Health by telegraph, and the district health officer where the leper comes from should be informed accordingly. This official, in turn, will inform the family concerned.

After the lepers have been taken to the Culion Leper Colony, the leper boat, on its return to Manila, should always stop at Mariveles for disinfection and fumigation, after the written authority from the Quarantine Service has been previously secured. If positive lepers from Culion are on board for San Lazaro Hospital, the boat should directly come to Manila; and after discharging the lepers, the boat should go to Mariveles for disinfection purposes. If negative lepers are on board, the boat may directly go to Mariveles for such a disinfection, and then to Manila. Such are the prerequisites of the Quarantine Service of the Philipine Islands.

This paper will not be complete unless a short description of Culion is given. Culion, in its topography, looks similar to Baguio or Antipolo. Many of the houses are on the hill-top. Culion is a neat little place, the state of cleanliness being comparable with any municipality of the islands, having a population of more than 5,000 inhabitants. The streets are swept every day. There is a regular nightly collection of garbage, and the incineration furnace is working all the time. There is an excellent water-supply and a flush-system of sewage-disposal and also midden-sheds like those of Manila but which other municiplities do not have.

The Colony has primary and intermediate schools for the leprous children. The teachers are also lepers. The seventh grade has an attendance of 24 pupils. As a whole, the school is well conducted.

The houses of the Colony physicians and of other employees of the colony are situated on the north side called Balala Section, and the leper colony proper is on the south side. This section does not need any further comment on its suitability, location, and sanitation.

The medical staff is composed of men and women, both Americans and Filipinos, who work in harmonious coöperation for the welfare of the unfortunates in the Colony. These scientific workers, with careful and constant study and research, coupled with the best of opportunities, experience, and observations, may some day find the specific remedy, which will be an ultimate blessing for these afflicted sufferers who are eager at any moment to get well and to return to their respective homes as safe and welcome citizens.

The Colony has one General Hospital, three emergency hospitals, and three clinics with its numerous wards that will easily accommodate all lepers. There are wards for the advanced cases and for mild cases that receive regular treatments. We may see these people lined up in the morning, patiently in wait for their turn to come and receive the treatments.

There are surgical wards and dental clinics which receive an average of eight cases daily, mostly extractions. There is X-ray machine, which is complete in every way, whereby nervous patients, skin diseases, cancers, and paralysis—as complications of leprosy—are treated. There is a bacteriological and pathological laboratory where most of the research work is done.

The staff manufactures different compounds of ethyl-esters. such as those with peanut oil, linseed oil, and coconut oil—all paving the way for a specific non-irritating drug. The best drug so far found is the chaulmoogra ethyl-esters mixed with iodine.

There are dormitories for those lepers who cannot physically build their homes. Those who can afford have built beautiful homes at their own expenses. There are some cases where the Government has given them all the necessary materials for the construction of their respective houses. There is the General Kitchen where the entire colony receives its regular rations. About 4,800 lepers, orderly line up during the distribution time and upon presentation of cards, receive their rice provision of 14½ *chupas* each week, and 250 grams of fish, and an equal quantity of vegetables daily. They have a weekly ration of coffee. sugar, and milk. About 200 persons receive cooked rations. About 75 persons receive special rations monthly. The special ration is composed of eight *gantas* of rice, canned foods, vegetables, and other food supplies. These persons are denied these rations if they do not present themselves for treatment as the doctors may direct. The hospitals provide food for the sick not included in the foregoing distribution of rations. The General Kitchen is opened at 6 a. m. and is closed at 7 p. m. every day.

I understand from the Chief of the Colony that every male leper having no work and all female lepers, making a total of more than 3,000 persons are each given ₱0.20 weekly for personal minor necessities. It may thus be seen that the inmates are well supplied.

The Culion Leper Colony is complete in every way. It has a general store where clothes and other articles may be purchased. Each leper receives one blanket, one mat, and one pair of undershirts twice a year. They have small *tiendas* in some houses like the tiendas of *sari-sari* in our regular municipalities. They have a club and a "pool" house which is open with permission, according to the Chief of the Colony, until 10 p. m. every night. It is surprising to see that when the bell rings at this hour, every person goes to his bed, and no man is seen walking on the streets, except the policemen on guard.

The Chief of the Colony acts as justice of the peace. He penalizes personal disputes, stealing, and other matters. The Court of First Instance regularly holds its session at the Colony. Many cases handled are of concubinage. The Colony prison had a prisoners suffering penalties for such crimes at the time of our visit.

Peace and contentment reign in the whole Colony. The lepers are satisfied and happy. Many have expressed their desire to stay in the place permanently, and others already found to be negative have requested the Chief of the Colony to let them stay "for good." It behooves a man to visit the Colony and to see for himself all the conditions of living before he can really appreciate whether it is indeed a Land of the Fortunates, and not the Land of Sorrow which some people have inappropriately called it.

Behold the coming of the new lepers, for example, during a leper collection! These newcomers are met with a band of musicians composed, of course of lepers, as if to say, "Welcome!" to them who come both eager and anxious. The people rush in crowds, perhaps in the hope to see relatives and friends from whom they may get information of the "folks at home." Those newcomers stay in the quarantine-station for at least seven days, and then they are distributed throughout the entire Colony for the necessary treatments.

Here is a Colony where all people are working jointly. Here are authorities working exclusively for the welfare of the inhabitants, and here are lepers who can bring their complaints, state their needs, and have such wants immediately satisfied to the contentment of the inmates. With the present medical personnel and the efficient service that it is rendering for the lepers, it is hoped that some day the specific treatment for leprosy may be found!

Other additional suggestion for future leper collection may be made thus:

1. Some lepers on board do not eat salmon and sardines. In a long trip of leper collection, as of more than a week, these foods become cloying or insipid to them. It is therefore, suggested that in any future leper collection, fresh fish and vegetables, which may be placed in cold storage on board, should be included in the menu prepared for the lepers.

2. Some of the lepers do not bring clothing of any kind and they have to be well-nigh naked for some time during the trip. In some cases, the shirts of some passengers are furnished the patients. In order to protect the health of the lepers, necessary articles, such as shirts and underwears as well as blankets and mats, must be included in the list of materials for a leper collection trip, for distribution to lepers needing such articles.

3. Some of the district health officers have not prepared Special Leprosy Reports as required by the circular of the Philippine Health Service, and in many cases these reports have been filled in by the clerk in charge of the leper collection. These district health officers should be advised to comply strictly with said circular.

4. It is also suggested that a bathroom should be provided for the lepers on board during any collection trip. An orchestra of three persons, to be contracted for by the Central Office for the entire trip, will mean a long way towards cheering up those newly rounded up.

5. Some places where lepers are isolated are not adequately provided with leper-houses. The lepers are isolated in some kind of insanitary shelters which hardly protect them from rain and heat. A few points are provided with leper-houses which have been constructed at the expense of the Insular Fund. It is suggested that the provincial boards controlling the ports, where lepers are isolated awaiting transportation to Culion, be urged to build more or less permanent leper-houses at the expenses of the provinces concerned. If the province is not able to defray the necessary expenses for such construction, the same should be borne by the Insular Fund.

DIPHTHERIA—A PREVENTABLE DISEASE[1]

In view of the fact that diphtheria is responsible for 215 deaths in 1921, 120 in 1922, and 153 in 1923 in the provinces, and 22 in 1921, 22 in 1922, and 25 in 1923 in the City of Manila alone, the following information concerning the use of toxin-antitoxin as an immunizing agent against diphtheria is timely. If this fact could be brought to the attention of the people, there is no question but that a marked decrease in the number of deaths from diphtheria would be the immediate result. A study of the deaths of diphtheria shows that the parents were responsible because they did not seek medical advice early enough or refuse to promptly heed such advice.

Diphtheria is caused by a germ called diphtheria bacillus. This germ not only causes a sore spot or eruption at the place where it grows, but it also makes a deadly poison that weakens the heart. It is a severe catching disease that attacks the nose, throat, or windpipe. The growth of the germs causes a membrane to form which sometimes gets large enough to fill up the windpipe and cause chocking and strangling.

The children catch diphtheria more readily than grown-ups. The danger of taking diphtheria is greater at certain ages. Children between 6 months and 6 years are most likely to contract the disease. Deaths from diphtheria occur chiefly among children under 3 years. It occurs in all seasons but it is most common during colder months when people come in closer contact with each other.

The children can catch the disease by coming near or close to people who may have diphtheria germs in their nose or throat. All of us when breathing exhale a very fine moist spray which is the secretion from the lining of the mouth, nose, windpipe, and lungs that contains many kinds of germs. This spray ordinarily cannot be seen except in a cold morning or when the breathing is forceful as in coughing and sneezing. The secretions of persons who are sick with diphtheria contain germs. The secretion of well people who have been close to a person sick with diphtheria may contain diphtheria germs. These people who have the germs in their noses and throats give them to other people things that they have had in their mouths. Sometimes they infect milk with the saliva on their hands and by coughing and sneezing over milk pails.

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[1] Broadcasted at Radio Station KZKZ Electrical Supply Co., Plaza Santa Cruz, on October 30, 1924 at 8 p. m.

Every case of diphtheria comes from another case or carrier. A carrier is a well person who harbors and peddles disease germs. A well person who harbors diphtheria germs is known as a diphtheria carrier. Diphtheria carriers can be detected only by culture of the nose and throat secretions. In making a throat culture, the doctor or nurse rubs the germs off the tonsils or the lining of the nose on a piece of cotton and places them on a special germ food. This food is now put in a warm place where these germs grow and multiply so that there will be enough to recognize them from other germs under the microscope.

Diphtheria may be like a very severe sore throat with small or large white patches. These patches may appear not only on the tonsils, but also on the small, rounded end of the palate which hangs down between the tonsils. Sometimes they are so far down the throat that they cannot be seen. There is pain in the throat, weakness in the back and neck, and in the muscles generally. The glands in the neck may be quite large and tender. The patient may be feverish and delirious. Then the fever may not be high. If your child is feverish and has a sore throat, call a doctor and make sure that your child is not suffering from diphtheria.

Children may be protected against this disease by means of diphtheria antitoxin. Toxin means poison; anti means against; therefore antitoxin is a substance which fight against poison; against the diphtheria poison in this case. This substance has been developed by men who study and work with bacteria in laboratories. It is not harmful and if given early enough will fight the diptheria poison which is being manufactured in the body by the disease germs. Thus, a person who is given antitoxin can recover from the disease. Before the wonderful discovery of antitoxin a person getting diphtheria had not much chance to get well. Toxin-antitoxin is a mixture of the diphteria toxin grown in the laboratory and the anti-toxin which is manufactured in the blood of a horse which has been made immune to diphtheria. The immunity against diphtheria which is given by three successive doses one week apart, continues for several years and may last a lifetime.

Report every case of diphtheria to the Philippine Health Service either verbally, by phone or by letter. In this way, early sanitary measures can be instituted.

MALARIA AND HOW TO PREVENT IT[1]

Malaria has been and still prevalent in the Philippine Islands. Though malaria is not directly fatal, its wide prevalence in almost all warm climates produces in the aggregate to an enormous amount of sickness and death. It causes the heaviest tolls of lives at present in this country. It has been estimated that it produces one-half of the total mortality of the human race.

For the last ten years, there was an average of 29,572 deaths from malaria annually. This means that there was an average of 303 deaths from the disease per 100,000 population for the last ten years. The death rate was highest in 1918, being 411 per 100,000 population.

Malaria fever is caused by malaria parasites. These parasites are transmitted in the blood of human beings by anophelene mosquitoes. These mosquitoes thrive best in swamps, stagnant water, crevices, empty cans, and barrels, and anything that holds water.

"Carriers" are persons that have malaria parasites in their blood, but are not ill, because of strong resistance against the disease.

A person having malaria fever has chills and fever and afterwards sweating. The fever may be every day, every other day, or every third day. After the fever, the person feels well until he gets another fever.

Malaria is prevalent throughout the year, although it has a tendency to increase during the months of July, August, and September.

For the laborers, malaria means an immense loss of their time, labor, and money. If members of these families other than themeselves be affected, it may also mean a loss of time and money. For the employer, it means the loss of labor at a time, perhaps, when it should be of greatest value. If it does not mean the actual loss of labor to the employer, it will mean a loss in the efficiency of his labor. To the farmers, it may mean the loss of their crops by want of cultivation. It will mean the imperfect cultivation of thousands and thousands of hectares of fertile lands. It has been found that one-third of the working period of a laborer is lost, because of malarial disease.

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[1] Broadcasted at Radio Station KZKZ, Electrical Supply Co., Inc., Santa Cruz, Manila, on October 15, 1924.

Malaria prevention and control requires the complete coördination of governmental, corporate, and private functions. The campaign must be undertaken under a joint coöperation of the Philippine Health Service, Red Cross, Public Welfare Commissioner, and Bureau of Education, through which the educational side of this campaign may very well be displayed, and with the Bureau of Agriculture and of Public Works by encouraging the cultivation of agricultural lands and the filling-up of low lands.

In the prevention of malaria, it should be borne in mind that "no mosquitoes, no malaria" and that "quinine is the remedy." The following instructions must be strictly complied with.

1. Use screens with wire netting to prevent ingress and egress of mosquitoes.
2. Destroy the mosquito breeding places by filling-up of low lands and by spraying kerosene oil on stagnant water.
3. Kill mosquito larvæ with Paris green and larvæ-eating fish.
4. Remove or destroy tin cans, tin boxes, broken or empty bottles, and similar articles likely to hold water.
5. Take quinine as prophylactic and curative.
6. "Carriers" should be very careful not to transmit the disease to others.

MISCELLANEOUS

INSPECTION TRIP TO NAGA AND ALBAY

Dr. Sixto Y. Orosa, Acting Chief, Division of Hospitals, Dispensaries and Laboratories of the Philippine Health Service, in his recent inspection trip to Naga and Albay in company with the legislative party, reports that the sanitary conditions of the town of Naga during the town fiesta were satisfactory. There were no epidemic diseases, and the mortality and morbidity rates were low. The district health officer mobilized eight of his eleven presidents of sanitary division, divided the town into districts, and assigned a physician to each. Particular supervision was exercised over hotels, restaurants, tiendas, markets, etc. Ten public midden sheds and two emergency stations were put up.

The party, of which Hon. E. A. Gilmore was a guest, visited the proposed site for the new hospital and the present Naga Provincial Hospital. After the inspection, the secretary gave a heart to heart talk to all the health personnel in Naga, the provincial governors of Camarines Sur and Albay being present. The Albay Provincial Hospital building was found to be extremely unsatisfactory and the construction of a new one entirely justified.

NO BUBONIC PLAGUE IN THE PHILIPPINES

In the local papers of the city, there appeared recently in big letters, alarming news regarding the supposed occurrence of a case of bubonic plague in Samar. On investigation by the health authorities, it was found out that the case was not of bubonic plague but of anthrax, which occurred on September 18, 1924, in the person of Mr. Gerardo Rosales, acting president of Sanitary Division, Tinambacan, Samar. Contrary to what has, therefore, been published, *there is no such thing as bubonic plague at present anywhere in the Islands.*

CASES TREATED IN BATANES

The district health officer of Basco, Batanes, reports that during months of June, July, and August there were treated in the schools of his district the following cases:

	June	July	August
Trachoma	17	2	2
Skin diseases	13	3	3
Simple conjunctivities	4	0	0
Surgical cases	1	2	1
Medical cases	34	11	2
Teeth cases	10	0	0
Yaws cases	24	23	46
Number cured	94	39	42

NURSE CONSOLACION ENAYA'S HEROIC DEED DURING THE BUTUAN EARTHQUAKE

The Honorable, the Secretary of Public Instruction, in approving the special order issued by the Director of Health commending the heroic deed shown by Nurse Consolacion Enaya during the Butuan Earthquake on August 30, 1924, said: "This department joins in the appreciation and praise of the exceptionally heroic deed shown by Miss Consolacion Enaya during the earthquake at Butuan, and entirely approves of the step taken to have such a noteworthy, plausible, and edifying example of spirit of service given as wide publicity as possible for the emulation of others not only for her profession, but all Government employees in general." The special order issued by the Director of Health is herewith quoted:

September 18, 1924

"SPECIAL ORDER }
No. 9 }

"PAR. 18. Head Nurse Consolacion Enaya, of the Butuan Public Hospital is hereby publicly commended for her heroic behaviour during the Butuan Earthquake of August 30, 1924.

"Nurse Enaya, at the time of the earthquake's occurrence, was on duty at the hospital, attending a woman *who had just delivered*, and who, because of her physical condition, became panicky during the earthquake. Through the harrowing confusion, bedlam, and never-racking din characteristic of all seismic phenomena of extraordinary intensity and resulting, in the case of the Butuan Hospital building, from a heaving earth cracking concrete posts, falling walls, shattered glassware, and rampaging equipment and furniture, Nurse Enaya stuck by her post of duty remained on guard over the patient entrusted to her care, soothing and encouraging her, unmindful of danger and scorning any instinctive desire to rush out of the crumbling building.

"Nurse Enaya's devotion to duty, superb courage and abnegation should serve as object lessons wherefrom public servants may desire inspiration.

"A signed copy of this order should be framed and posted on some conspicuous place at the Butuan Public Hospital building, another a signed copy should be furnished Head Nurse Consolacion Enaya, and true copies sent to the principal of the Zamboanga General Hospital Training School for Nurses, to the medical officers in charge of health stations in Manila and to all district health officers, who are hereby requested to give this order as wide a publicity as possible among the sanitary inspectors and other personnel under their respective jurisdictions.

"(Sgd.) V. JESUS
"Director of Health

"Approved:
"(Sgd.) E. A. GILMORE
"Secretary of Public Instruction"

LIMPIEZA DE SOLARES VACANTES

La Oficina de Sanidad desea pedir la cooperación de los dueños de solares vacantes en la Ciudad de Manila, rogándoles conserven los mismos en perfectas condiciones de limpieza.

Las ordenanzas de la ciudad confieren poder a la Oficina de Sanidad para proceder contra los propietarios de solares vacantes cuyos solares fue-

sen encontrados en condiciones insanitarias; pero abundando dicha Oficina en la teoría de que la sanitación debe imponerse por convicción y no por la fuerza, es por lo que solicita tal cooperación.

Por regla general, los solares vacantes que se encuentran en peores condiciones sanitarias son los inmediatos a los mercados públicos por la costumbre de que los cocheros y carromateros usan generalmente tales solares como parada de sus vehículos. Las autoridades municipales han sido consultadas acerca de los medios que se podrían emplear para prohibir tan mala costumbre y han contestado que nada pueden hacer en propiedad privada, siendo por lo tanto exclusiva obligación de que los dueños de dichos solares el mantenerlos limpios en todo tiempo así como poner los medios legales para impedir que se usen para el menciona fin.

En vista de esta resolución de las autoridades municipales, la Oficina de Sanidad recomienda a los dueños de dichos solares vacantes, que cerquen los mismos con un cerco duradero y permanente aprobado por el ingeniero de la ciudad o que pongan en los linderos de sus solares carteles con la inscripción "No parar aquí" o " No arrojar desperdicios y basuras" pues por este medio el que infringiese el aviso, podría ser perseguido por allanamiento o uso indebido de la propiedad. En nuestra opinión, cercar el solar sería más eficaz.

La Oficina de Sanidad ha ordenado a los oficiales de las estaciones sanitarias que emprendan una campaña para poner y mantener limpios los solares vacantes para cuyo fin los propietarios respectivos recibieran las órdenes sanitarias correspondientes.

WORK OF THE PROVINCIAL DENTIST OF BULACAN DURING THE MONTH OF SEPTEMBER

The district health officer of Bulacan reports that Dr. Bartolome Reyes, provincial dentist of Bulacan, treated 215 cases in the towns of Angat, Obando, Bigaa, Baliuag, and Malolos.

MALARIA CAMPAIGN IN DEL CARMEN, PAMPANGA

Mr. W. D. Tiedeman, of the Rockefeller Foundation, in charge of the Malaria campaign in Del Carmen, Pampanga, reports that the absence of heavy rains during the past month has made conditions favorable for the propagation of the stream breeding species of anopheles which are our best carriers of malaria. During the rainy season, the breeding in streams has been negligible. The field work has been continued without interruption but schedules of work have been rearranged so as to give first attention to stream breeding.

ANNUAL CONVENTION OF PRESIDENTS OF SANITARY DIVISIONS IN BULACAN

The Annual Convention of Presidents of Sanitary Divisions of the Province of Bulacan will be held at Malolos, Bulacan, on November 8, 1924. Important matters will be taken up in the convention including the improvement of the general sanitation of their respective divisions and the reduction of the general mortality rate. The duties of the sanitary inspectors will be taken up in the convention also with a view of increasing the efficiency of the service.

MEDICAL RESERVE OFFICERS OF THE U. S. ARMY CALLED TO ACTIVE DUTY

Reserve officers of the medical section of the U. S. Army are now called to active duty for 15 days (from November 28, 1924, to December 12, 1924)

at Fort William McKinley, Rizal. The following officers of the Philippine Health Service received their notification from the Headquarters, Philippine Department, under date of October 3, 1924:

Captain Regino G. Padua, M. R. C.
First Lieutenant Felino Simpao, M. R. C.
First Lieutenant Rafael Jesus Perez, M. R. C.
First Lieutenant Leopoldo Pardo, M. R. C.

These medical reserve corps officers will take a course of instruction on such subjects as: (1) Administration, (2) Military Hygiene, (3) Sanitary Tactics and Troop Leading, and (4) Equipment and Transportation. During this period of training, these officers will not lose their status in the Philippine Health Service and will receive compensation corresponding to their ranks in the Army.

ENGINEERS AND INSPECTORS OF, FINISHED THEIR TRAINING AT DEL CARMEN, PAMPANGA

The engineers and inspectors of the Philippine Health Service who were detailed at Del Carmen, Pampanga, in connection with the malaria campaign conducted by the Rockefeller oundation, have just finished their work in a creditable manner. Their field assignments in Mindoro and Manila will put their knowledge to a practical test.

TRAINING COURSE FOR SANITARY INSPECTORS IN TACLOBAN, LEYTE

The district health officer of Leyte is to open a training course for sanitary inspectors. This school is not in any way similar to the one opened by the Philippine Health Service, but it will serve to impart more knowledge of sanitation among the 62 sanitary inspectors in Leyte, especially by raising the actual standard by teaching them methodically how to handle communicable diseases, how to use disinfectants, simple remedies, how to conduct the office, how to make routine inspections, and other details of their daily work in the field.

NURSES FOR OCCIDENTAL NEGROS

Three females district nurses are needed in the Province of Occidental Negros. The positions bear a salary of ₱90 a month each with traveling expenses and per diems when out of station. Applicants must forward their application to the Director, Bureau of Health, if in the province or report to the Executive Officers personally if in Manila.

SANITARY CONDITIONS IN ABRA

The district health officer of Abra in his recent inspection in the municipalities of Dolores, Peñarrubia, Bucay, Pilar, Villaviciosa, and La Paz, reports that the general sanitary conditions are satisfactory. Influenza is the prevailing disease in these municipalities. To prevent its spread, isolation of patients and disinfection of premises were adopted. Lectures and written instructions to the municipal officials were given.

DISTRIBUTION OF DIPLOMAS AND MEDALS AWARDED BY THE NATIONAL COMMITTEE OF CLEAN-UP WEEK OF 1923

The distribution of diplomas and medals awarded by the National Committee of Clean-Up Week of 1923 will be held on the 17th instant at three o'clock in the afternoon at the elementary school, Tayuman Street, Tondo.

It has been decided to hold the distribution of said diplomas and medals in said school in view of its having won first place in the Clean-Up Week contest among the schools in the City of Manila during the past year.

The principal of the said school has prepared a short program for the occasion and the public is cordially invited to be present.

The following is the list of dwellings, shops, sanitary personnel and policemen have been adjudged winners in the contest:

Schools:
- Rizal Elementary School.

Dwellings:
- Mr. Alejandro Roces, 1698 Leveriza.
- Mrs. Maria Dizon, 1037 O'Donnell.
- Miss Rosario Lopez, 816 Trabajo, Sampaloc.
- Mrs. Paulita de Uy Yet, 912 Benavides.
- Mr. Manuel del Mundo, 1177 int. Pennsylvania.

Shops:
- Mr. Hayden, Legaspi Landing.
- La Insular Cigar Factory.
- Mr. Pablo Soliman, 1086 Arlegui.
- Mrs. Pura Litonjua, 1176 Pennsylvania.

Health employees:
- Station No. 1, Intramuros—
  - Valentin Quijano, Sanitary Inspector.
  - Doroteo Frusen, Sanitary Inspector.
  - L. Lardizabal, Patrolman.
  - A. Romero, Patrolman.
  - F. Gonzales, Patrolman.
- Station No. 2, Meisic—
  - M. del Rosario, Sanitary Inspector.
  - F. Catapia, Sanitary Inspector.
  - P. Sembrano, Patrolman.
  - B. Bacho, Patrolman.
  - B. Rosales, Laborer.
- Station No. 4, Sampaloc—
  - M. Ingasalo, Sanitary Inspector.
  - G. R. Shilling, Sanitary Inspector.
  - A. Camacho, Patrolman.
  - N. Arespacochaga, Patrolman.
- Station No. 5, Tondo—
  - D. Buensuceso, Sanitary Inspector.
  - F. Medina, Sanitary Inspector.
  - Norberto de Castro, Patrolman.
- Station No. 6, Paco—
  - A. Z. Camagay, Sanitary Inspector.
  - B. Fulgencio, Sanitary Inspector.
  - M. Flores, Sanitary Inspector.
  - S. Pabalate, Patrolman.

Champion district:
- Health Station No. 2, Meisic.

Members:
- Dr. Felipe Arenas, incharge of the Station.
- Hon. Marcelo Eloriaga, Councilor.

Members—Continued.
Dr. Canuto Reyes, Assistant Health Officer.
C. P. Mejia, Sanitary Inspector.

TOTAL NUMBER OF LEPERS COLLECTED

The total number of lepers collected at different points undertaken under the charge of Dr. T. Corpus of the Philippine Health Service from August 28 to October 11, 1924, is as follows:

Northern Provinces:	
Aparri	35
Curimao	7
Bacnotan	21
San Fernando	14
Subic	8
Total	85
San Lazaro Hospital	90
Mindoro and Bicol Provinces:	
Pinamalayan	1
Pasacao	34
Sorsogon	21
Total	56
Visayan Islands:	
Masbate	6
Allen (Samar)	13
Catbalogan	4
Tacloban	6
Maasin (Leyte)	7
Cebu	91
Dumaguete	2
Bacolod	10
Iloilo	24
San Jose (Antique)	6
Total	169
Mindanao and Sulu:	
Isabela de Basilan	7
Jolo	10
Cotabato	3
Davao	2
Surigao	1
Butuan	3
Cagayan	1
Iligan	6
Misamis	4
Dapitan	1
Total	38
Grand total	438

From Culion the steamship *Basilan* has brought to the San Lazaro Hospital 26 negative lepers. As of September 20, 1924, a total of 232 negative lepers are registered in the Culion Leper Colony.

YAWS CAMPAIGN IN AGUSAN

For the month of September, 1924, the following yaws cases have been treated with neosalvarsan:

Los Martires	13
Talacogon	37
San Luis	11
Santa Ines	25
Guadalupe	52
Santa Fe	20
Esperanza	54
Manapa	1
Total	213

DISTRIBUTION OF ASSORTED VACCINES AND SERA

Dr. Bonfacio Mencias, chief of the Office of Property of the Philippine Health Service, reports that for the month of September, 1924, the following assorted vaccines and sera have been distributed in Manila and in the provinces: antidiphteric serum, 315,000 units; antidysenteric serum, 155 ampules; antitetanic serum, 161,000 units; normal horse serum, 25 ampules; gonococcus vaccine, 150 ampules; cholera vaccine, 15,300 c. c.; mixed cholera-typhoid vaccine and typhoid vaccine furnished free by the Bureau of Science; fresh vaccine virus, 1,709 units; and dried vaccine virus, 1,584 units. These cost ₱7,090.

NURSES LEOGARDO AND MONTES OFF FOR INSPECTION

Chief Supervising Nurse Carmen Leogardo and Nurse Fortunata Montes have been directed to proceed to Bulacan, Pampanga, Tarlac, and Nueva Ecija to inspect the work of district nurses in the homes, schools, dispensaries or puericulture centers, and other activities of the Public Health Nursing Service. During their inspection in each town or province they are to note down all the defects or irregularities they may find and give the necessary instructions.

District health officers and other officers of the service have also been instructed to render the necessary coöperation with the chief supervising nurse.

CIGAR AND CIGARETTE FACTORIES

Dr. Rafael Villafranca, chief of the Office of General Inspection of the Philippine Health Service, reports that from August 1 to September 30, 1924, a total of 72 cigar and cigarette factories have been inspected in Manila and in the provinces. Seven factories scored 75 per cent on the basis of 100 per cent. Several factories were reported deficient, because of the absence of sewerage system and proper supply of water. Proper steps have been taken accordingly. Others were also reported with minor deficiencies such as insanitary conditions of toilets and surroundings. The managers of such factories are coöperating in the correction of these deficiencies.

ANTIPOLO CLOSETS CONSTRUCTED IN BATANGAS PROVINCE

Senior Medical Inspector Victorino Santos, district health officer of Batangas, reports that during the month of September, a total of 145 Antipolo closets were built in 14 municipalities, as follows:

Alitagtag	12
Batangas	15
Bauan	1
Bolbok	45
Calaca	2
Cuenca	5
Ibaan	15
Lian	2
Labo	3
San Jose	15
Santo Tomas	5
Tanauan	10
Taysan	14
Tuy	1

NEW ASSIGNMENTS

Nurse Mrs. Miguela G. Dayao has been directed to report for duty to Camp Surgeon, Camp Stotsenburg, Pampanga, for two weeks after which time she will return to Manila to resume her usual duties.

Dr. Juan Crisologo, resident physician of Puerto Princesa Hospital, has been directed to report to the chief, San Lazaro Hospital, for two weeks detail in the contagious wards and two weeks in laboratory work.

Dr. Adriano Cabrera has been appointed resident physician in the Zamboanga General Hospital. He has been directed to leave for Zamboanga and to report to the Supervising Surgeon of the hospital.

Dr. Emilio Licauco has been directed to proceed to Davao and report to the district health officer thereat. He has been appointed as president of Sanitary Division at Mati.

Dr. Jose Rodriguez has been appointed as assistant surgeon of the Philippine Health Service and has been directed to report to the medical officer, Health Station No. 5, for duty thereat.

PROMOTIONS

Surgeons Tirso Coronel, district health officer of Abra, and Jose Castrillo, district health officer of Zambales, have recently been promoted to senior surgeons. These two district health officers have been directed to exchange places.

Doctor Laserna, of Bohol, has recently been commissioned as surgeon of the Philippine Health Service. He has been assigned as assistant district health officer of Cebu.

OFF FOR YAWS INSPECTION

Doctors Sellard, Lacy, and Lopez-Rizal left for Imus yesterday morning to visit the yaws clinics thereat. They also visited the yaws clinics in Bacoor of the Province of Cavite and Parañaque of the Province of Rizal The party returned to Manila in the afternoon of the same day.

RECTIFICATION

The chief, Office of General Inspection of the Philippine Health Service, desires to state that with regards to the seventy-two cigar and cigarette factories that were inspected in Manila and in the provinces from August 1 to September 30, 1924, only seven factories scored less than 75 per cent on the basis of 100 per cent, and the rest were found to be in excellent sanitary conditions. This is to rectify the wrong idea about the sanitary conditions of these factories as published in the Philippines Herald and other papers on October 17, 1924.

PARTY BACK

Medical Inspector Regino G. Padua and Assistant Surgeon Samuel Tietze who were directed to accompany Mr. Frank Oldrieve, secretary of the British Empire Leprosy Relief Association, for an Inspection trip to Culion, returned on October 17, 1924.

REPORT OF DOCTOR FERNANDEZ

Dr. Jose Fernandez, pensionado of the Philippine Health Service in the United States to specialize in mental diseases, reports that he worked in the Boston Psychopathic Hospital under Dr. C. Macfie Campbell from January to July of this year.

He reports that no much therapy is done. Paraldehyde is being used as a routine to manic and excited cases. Prolonged continuous bath is employed extensively. Manic cases are kept six hours in the baths. The sedative effect of these baths is great. Cold packs are seldom used. Hydrotherapy, in the form of showers and douches, at regulated pressure and temperature, is also used extensively. Occupational therapy is being encouraged. Patients are taught to basketing, sewing, painting, carpentry, etc.

Doctor Fernandez has returned to Boston Psychopathic Hospital, Howard University. After this he shall arrange to do advanced work in the outpatient department until the end of December. Then he will attend Johns Hopkins University to take up mental hygiene under Doctor Meyer.

REPORT OF DISTRICT HEALTH OFFICER OF CAGAYAN

Dr. Gavino Vinluan, district health officer of Cagayan, reports that in the last typhoon which occurred on October, 1924, in his district, 100 per cent of the houses in Tuguegarao were damaged; in Iguig, Amulung, Baggao, Gattaran, Alcala, Faire, Piat, and Tuao 98 per cent of the houses were destroyed; Lal-lo, 70 per cent; Aparri and Buguey, 90 per cent; Abulug and Ballesteros, 50 per cent; Solana and Peñablanca, 85 per cent; and Enrique, 70 per cent. These included public buildings, churches, stores, and warehouses in several municipalities.

During the storm, many water crafts with their crew as those of the Red Line Transportation Company and the Government were lost. The launch *Sibulan* lost its crew except three persons. The coastguard *Pathfinder* was wrecked in the barrio of Bisaga, Aparri.

The following number of deaths were so far registered: Alcala, 2 deaths; Baggao, 6; Solana, 4 drowned; Faire, 1 drowned; Tuguegarao, 2 lost; Tuao, 1 death; Lal-lo, 1 drowned; Aparri, 5 deaths; and Buguey, 1 death.

All public documents and medicines in several municipalities were destroyed.

The district health officer further reports that all sanitary personnel are keeping the devastated areas in sanitary conditions and distributing medicines to the needy.

ARRIVAL OF ANOTHER SET OF NEGATIVE LEPERS

Five negative lepers were sent to the San Lazaro Hospital on the steamship *Basilan* from the Culion Leper Colony on October 20, 1924. It is to be remembered that twenty-six negative lepers were sent to the San Lazaro Hospital from the colony on October 11, 1924, making a total of 31 negatives for the month of October.

DOCTOR RAYMUNDO IN MANILA

Dr. Jose Raymundo, district health officer of Agusan, is in Manila on official business. He arrived on October 11, 1924. He has secured enough fund from the Philippine Health Service to cover the amount for the repairs of the Butuan Public Hospital which has been partly damaged during the earthquake of October 3, 1924.

SANITATION OF BILIBID PRISON

Dr. Samuel Tietze, chief of Sanitation Division, reports that during the month of September the sanitation of the Bilibid Hospital was good.

The grounds are well drained. The buildings are well ventilated with large hinged windows admitting plenty of light and fresh air. The prisoners are quartered in dormitories which are long-stone building with cement floors.

There is sufficient number of toilets for each dormitory flushed with city water. Each brigade is provided with a proper tin garbage receptacle. This garbage is burned in the incinerator situated in the stockade.

The mosquito campaign is carried on by disinfecting all canals and drains every two days, cutting down weeds and underbrushes in the stockade when necessary and disposing of all empty cases. The fly campaign is carried on by seeing that garbage cans are tightly covered.

The water is obtained from the city and boiled. The food consists of unpolished rice and is well-balanced.

Practically all the prisoners go thru a form of calisthenics every day for ten minutes assisted by music. They work in the machinery department, carpentry shop, kitchen department, painting shop, and stockade.

Amusements consist of movies, base-ball, music, various religious sources conducted by different denominations, and literary musical entertainments conducted by the inmates of the Educational Department.

It is planned to send 45 mild insane cases from San Lazaro Hospital to be kept in one of the wards in Bilibid Hospital. Construction of this ward will soon be started.

The Bilibid Prison has 7 per cent hookworm. There is a total of 420 cases admitted during the month, and 260 were discharged. A total of 4,714 prescriptions were filled for the inmates.

SANITATION OF SAN RAMON PENAL COLONY

Colony Physician C. H. Deles reports that for the month of September the sanitation of San Ramon Penal Colony is satisfactory.

All premises in the colony are cleaned daily. Within the prison there are receptacles with covers wherein all refuse is deposited. These are emptied and cleaned every day.

There is enough ventilation. Petroleum lamps and lanterns are used for lighting.

The prison proper is provided with good sewer system and toilets. The school toilet system is very satisfactory. Some houses of employees are also provided with good toilets of the Antipolo system. The toilets are frequently disinfected.

The garbage is placed in cans and disposed of daily by means of carts. The work is satisfactory.

The water supply for drinking is excellent. Spring water supplies the prison proper.

Food is abundant.

The inmates are allowed to play base-ball, indoor base-ball, volley-ball, and "sipa."

There is a sufficient medical supply. There were 411 treatments, one major operation and 228 dressings. A total of 36 prescriptions were filled.

One case of varicella and 5 cases of pulmonary tuberculosis were reported.

DOCTOR VILLAFRANCA AND SANITARY ENGINEER LOPEZ ON INSPECTION

Dr. Rafael Villafranca, chief, office of General Inspection, and Assistant Sanitary Engineer Lopez, of the Philippine Health Service, inspected several tobacco factories in Malabon on October 22, 1924. They returned in the afternoon of the same day.

TRAINING FOR HEALTH OFFICERS

From last February up to the present time, there are thirty-six health officers who have finished the training for health officers. This covers a course of two or three weeks. These physicians have been appointed as presidents of sanitary divisions in provinces.

DOCTOR BANTUG ON VACATION

Dr. J. P. Bantug, acting executive officer of the Philippine Health Service, is taking a vacation in his home town at San Isidro, Nueva Ecija. He will return to Manila after a week.

NURSES WANTED

One female nurse to work as district nurse in Lucena, Tayabas, who knows how to speak Tagalog, is wanted.

Any applicant desiring to apply for the position will please see the acting executive officer of the Philippine Health Service, Santa Potenciana Building, Intramuros, for further information.

YAWS INCIDENCE IN ILOCOS NORTE

The yaws campaign in Ilocos Norte was begun in 1922 during which time 1,433 were treated; in 1923, 228; and in 1924 (up to October 23, 1924) 1,229 of whom 952 were cured and the rest still under treatment. The municipalities of Dingras, Laoag, Pasuquin, San Nicolas, and Sarrat have had the greatest number of yaws cases.

YAWS CAMPAIGN IN ZAMBALES

A yaws campaign was conducted by Dr. Perpetuo D. Gutierrez, assistant surgeon of the Philippine Health Service, in the municipalities of San Antonio, San Felipe, and San Narciso last December 17, 1923. There were then 500 cases of yaws treated with neosalvarsan treatment.

The work was continued by the president of the Fourth Sanitary Division of Zambales this year. So far there were 896 cases treated distributed in the following municipalities: Cabangan, 19; San Antonio, 143; San Felipe, 357; and San Narciso, 377. A majority of these were chronic cases.

The result of this campaign has been satisfactory. Almost all of those given the neosalvarsan treatment became well, although there are few who show no signs of improvement as yet.

HEALTH LECTURE TO BE BROADCASTED

A health lecture entitled "Diphtheria—A Preventable Disease" will be broadcasted by radio at Radio Station KZKZ on October 30, 1924, at 8 p. m. It will be given by Medical Inspector Teofilo Corpus of the Philippine Health Service.

CHIEF NURSE LEOGARDO BACK

Mrs. Carmen Leogardo, chief nurse, Public Health Nursing Service of the Philippine Health Service, who has been on inspection, returned to Manila on October 28, 1924. The following towns were visited: Tarlac, Paniqui, Moncada, Concepcion, Capaz, and Gerona in the Province of Tarlac; Cabanatuan, Guimba, Santa Rosa, Talavera, Muñoz, San Jose, San Leonardo, Gapan, and Peñaranda in Nueva Ecija; Malolos, Hagonoy, Paombong, and Santa Maria in Bulacan; and San Fernando, Angeles, Porac, Mabalacat, Mexico, Candaba, Arayat, Santa Ana, San Simon, and Apalit in Pampanga.

Nurse Leogardo reports that the dispensaries in these municipalities visited are well kept and equipped.

NURSE PENALES GOES TO CAMP STOTSENBURG

Nurse Juana Penales, of the Public Health Nursing of the Philippine Health Service, has been directed to report to Camp Surgeon, Camp Stotsenburg, Pampanga, for duty with the civilian community thereat. She will return to her former station after two weeks.

NEW ASSIGNMENT

Dr. Evaristo Payad has been appointed president of the Third Sanitary Division of Calabanga, Camarines Sur.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of October, 1924]

ESTIMATED POPULATION FOR THE CITY OF MANILA FOR THE YEAR 1924 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, OCTOBER, 1924

Date	Pressure (mean) [1]	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	754.80	26.3	33.3	10	23.4	5, 6	29.0	29.0
11-20	59.18	26.6	22.7	11	21.9	15	29.3	29.5
21-31	58.98	26.2	32.1	26	22.2	21	29.1	29.3

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	88.3	94.3	4	81.6	10
11-20	82.9	91.3	17	76.1	19
21-31	87.1	93.9	29	82.8	30

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer[1] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SW	2,510.5	529.5	3	17.6	3.8	10
11-20	E	1,179.5	155.0	11	29.2	4.0	19
21-31	E quad.	1,211.5	152.5	30	24.3	3.9	30

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	19 40	6 35	1	321.4	9
11-20	59 40	9 35	19	12.6	4
21-31	38 15	6 55	31	44.6	7

[1] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	11	6	17	63.91
Filipinos	646	493	1,139	47.63
Spaniards	4	8	12	72.32
Other Europeans	6	2	8	88.71
Chinese	32	24	56	36.95
All others	5	....	5	26.95
Total and average	704	533	1,237	47.32

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	174	140	314	6	8	14	328	102.04
No. 2, Meisic	102	69	171	7	7	14	185	20.66
No. 4, Sampaloc	133	85	218	8	3	11	229	53.97
No. 5, Tondo	185	147	332	10	15	25	357	51.51
No. 6, Paco	73	57	130	6	2	8	138	49.30
Total	667	498	1,165	37	35	72	1,237	47.32

Number of births attended by physicians, living, 359; Stillbirts, 21
Number of births attended by midwife, living, 185; Stillbirths, 0
Number of births attended by family, living, 693; Stillbirths, 17

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2	1	3	11.28
Filipinos	303	287	590	24.67
Spaniards	2	....	2	12.05
Other Europeans	2	1	3	31.39
Chinese	25	3	28	18.48
All others	1	....	1	5.89
Total and average	335	292	627	23.98

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social condition	Male	Female
Married	103	76
Divorced	....	....
Widowed	36	53
Single	254	198
Condition not stated	3	1
Total	396	328
Grand total	724	

Stillbirths	38
Number of deaths with medical attendance	327
Number of deaths without medical attendance	397

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	33	38	2	2	75
30 days to under 1 year	66	58	9	13	146
1 year to under 2 years	21	27	4	4	56
2 years to 4 years	31	28	7	2	68
5 years to 9 years	11	13	....	....	24
10 years to 14 years	3	3	....	....	6
15 years to 19 years	16	7	5	2	30
20 years to 29 years	33	20	4	5	62
30 years to 39 years	26	21	9	....	56
40 years to 49 years	25	17	8	1	51
50 years to 59 years	25	14	4	1	44
60 years to 69 years	16	14	5	2	37
70 years to 79 years	12	19	....	1	32
80 years to 89 years	13	11	....	2	26
90 years to 99 years	3	6	3	1	13
100 years and over	1	1	....	....	2
Age not stated	....	....	....	....	....
Total	335	292	60	36	723

One (1) male Filipino, 35 years of age, permanent residence unknown, not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	115	35.78
No. 2, Meisic	110	12.28
No. 4, Sampaloc	121	28.52
No. 5, Tondo	310	44.72
No. 6, Paco	68	24.29
Total and average	724	27.69

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			9	3					1				13
4. Malaria			2	1									3
4a. Malarial cachexia				1									1
8. Whooping cough			1										1
9. Diphtheria and croup				1									1
10. Influenza			1	3	1								5
14. Dysentery			5	4									9
18. Erysipelas			1										1
20. Purulent infection and septicæmia			1	1									2
24. Tetanus			2	1					1				4
27a. Beriberi, infantile			33	21									54
28. Tuberculosis of the lungs			64	55					7		1		127
29. Acute miliary tuberculosis			2										2
30. Tuberculous meningitis			2	4					1				7
31. Abdominal tuberculosis			3	2									5
34. Tuberculosis of other organs			1										1
35. Disseminated tuberculosis			1	2									8
39. Cancer and other malignant tumors of the buccal cavity				1									1
40. Cancer and other malignant tumors of the stomach, liver				2									2
45. Cancer and other malignant tumors of other organs or of organs not specified									1				1
48. Chronic rheumatism and gout			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1	2									3
61. Simple meningitis:													
(1) Simple meningitis			11	10									21
(2) Cerebro-spinal meningitis (undefined)									2				2
63. Other diseases of the spinal cord									1				1
64. Cerebral hæmorrhage, apoplexy			6	14			1		1				22
66. Paralysis without specified cause			1	3									4
68. Other forms of mental alienation			2										2
69. Epilepsy			1										1
71. Convulsions of infants (under 5 years of age)			2	2									4

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
III. Diseases of the circulatory system													
78. Acute endocarditis			1	2									3
79. Organic diseases of the heart		1	4	5					1				11
84. Diseases of the lymphatic system (lymphangitis, etc.)			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			16	16						1			33
90. Chronic bronchitis			1	8									9
91. Broncho-pneumonia	1		36	26					3				66
92. Pneumonia			6	3									9
96. Asthma			1										1
V. Diseases of the digestive system													
99. Diseasess of the mouth and annexa			1										1
102. Ulcer of the stomach					1								1
103. Other diseases of the stomach (cancer excepted)				1									1
104. Diarrhœa and enteritis (under 2 years)			6	11									17
105. Diarrhœa and enteritis (2 years and over)			7	2									9
108. Appendicitis and typhlitis			1	1					1				3
109. Hernias, intestinal obstructions			1										1
113. Cirrhosis of the liver				1									1
115. Other diseases of the liver			1										1
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			4	4					1				9
120. Bright's disease	1		8	8						1			18
123. Calculi of the urinary passages				1									1
130. Other diseases of the uterus				2									2
VII. The puerperal state													
135. Puerperal haemorrhage				2									2
137. Puerperal septicæmia				1									1

VIII. Diseases of the skin and af the cellular tissue													
142. Gangrene			1	1									2
143. Furuncle									1				1
144. Acute abscess			1										1
X. Malformations													
150. Congenital malformations (stillbirths not included):													
(2) Congenital malformations of the heart			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			3	3						1			7
(2) Congenital debility			22	28				1	1				52
152. Other diseases peculiar to early infancy:													
(1) Injuries at birth (not stillborn)			1										1
(2) Other causes peculiar to early infancy			1	4									5
XII. Old age													
154. Senility			19	19									38
XIII. Affections caused by external causes													
165b. Other acute poisonings							1						1
167. Burns (conflagation excepted)				1									1
169. Accidental drowning				1									1
170. Traumatism by firearms									1				1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)									1				1
176. Injuries by animals			1										1
186. Other external violence			2										2
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			2	3									5
Total	2	1	303	287	2	......	2	1	25	3	1	......	627
Grand total	3		590		2		3		28		1		627

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2										2
4. Malaria			3						1				4
9. Diphtheria and croup			1	1									2
10. Influenza			1	1									2
14. Dysentery	1		1										2
20. Purulent infection and septicæmia				1									1
24. Tetanus			1	1									2
27a. Beriberi, infantile			4	6									10
28. Tuberculosis of the lungs			9	3									12
32. Pott's disease			1										1
34. Tuberculosis of other organs			1										1
47. Acute articular rheumatism			1										1
53. Leuchæmia			1										1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			3	1									4
(2) Cerebro-spinal meningitis (undefined)			1										1
68. Other forms of mental alienation				1									1
III. Diseases of the circulatory system													
78 Acute endocarditis				1					1				2
79. Organic diseases of the heart			1	2					1				4
IV. Diseases of the respiratory system													
89. Acute bronchitis			3	6									9
91. Broncho-pneumonia			4	1									5
92. Pneumonia			1				1						2
V. Diseases of the digestive system													
99. Diseases of the mouth and annexa	1												1
102. Ulcer of the stomach			1										1

104. Diarrhœa and enteritis (under 2 years)				1									1
105. Diarrhœa and enteritis (2 years and over)			1	2									3
108. Appendicitis and typhlitis				1									1
109. Hernias, intestinal obstructions			2										2
117. Simple peritonitis (nonpuerperal)			1										1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis				1									1
120. Bright's disease			2	1									3
123. Calculi of the urinary passages			1										1
VIII. Diseases of the skin and of cellular tissue													
143. Furuncle			1										1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema: (2) Congenital debility			1	3									4
XII. Old age													
154. Senility			3	2									5
XIII. Affections caused by external causes													
169. Accidental drowning			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1										1
Total	2		54	36			1		3				96
Grand total	2		90				1		3				96

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
8. Whooping cough					1	1
10. Influenza					2	2
18. Erysipelas					1	1
20. Purulent infection and septichæmia					1	1
24. Tetanus				2		2
27a. Beriberi, infantile				5	59	64
30. Tuberculous meningitis					1	1
61. Simple meningitis:						
(1) Simple meningitis					7	7
71. Convulsions of infants					4	4
84. Diseases of the lymphatic system (lymphangitis, etc.)					1	1
89. Acute bronchitis					28	28
90. Chronic bronchitis					3	3
91. Broncho-pneumonia					21	21
92. Pneumonia					1	1
104. Diarrhœa and enteritis					10	10
109. Hernias, intestinal obstruction					1	1
120. Bright's disease					1	1
144. Acute abscess					1	1
150. Congenital malformations (stillbirths not included):						
(2) Congenital malformations of the heart				1		1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not stillborn)	4	2		1		7
(2) Congenital debility	15	5		16	20	56
152. Other diseases peculiar to early infancy:						
(1) Injuries at birth (not stillborn)				1		1
(2) Other causes peculiar to early infancy	1			3	1	5
189. Causes of death not specified or ill defined		1				1
Total	20	8		29	164	221

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,576
Number of rats caught by spring traps	2,851
Number of cage wire traps set	744
Number of rats caught by cage wire traps	6
Number and kind of baits (coconuts)	21,320
Number of poison portions placed	15,279
Number of rats found poisoned	312
Number of rats killed by clubs and other weapons	787
Number of rats found dead from other causes	653
Total number of rats otherwise caught, found dead or killed	4,609
Total number of rats sent to the laboratory for examination	4,609
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF OCTOBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	5	3	9	5	8	1	4		5	1	10	2	41	12
Female	2		8	2	3		6	1			1		20	3
Home:														
Male									1				1	
Female					1		2						3	
Total:														
Male	5	3	9	5	8	1	4		6	1	10	2	42	12
Female	2		8	2	4		8	1			1		23	3
Grand total	7	3	17	7	12	1	12	1	6	1	11	2	65	15

REMARKS:

Total cases reported within the month in the City of Manila		78
Resident cases	64	
Non-resident cases	14	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		15
Deaths among resident cases	13	
Deaths among non-resident cases	2	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		62
By autopsy	4	
By blood culture	14	
By widal reaction	2	
By urine examination	0	
By feces examination	0	
By clinical symptoms	42	
Cases confirmed as paratyphoid fever		3
Cases not confirmed		13

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF OCTOBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	2	2			2	1	1				2	2	7	5
Female							2	1					2	1
Home:														
Male					2	2							2	2
Female	1	1	1	1	1	1							3	3
Total:														
Male	2	2			4	3	1				2	2	9	7
Female	1	1	1	1	1	1	2	1					5	4
Grand total	3	3	1	1	5	4	3	1			2	2	14	11

REMARKS:

Total cases reported within the month in the City of Manila		14
Resident cases	12	
Non-resident cases	2	
Total deaths reported within the month in the City of Manila		11
Deaths among resident cases	9	
Deaths among non-resident cases	2	
Cases not confirmed as dysentery		0

Dysentery carrier—1.

CHOLERA REPORTED DURING THE MONTH OF OCTOBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male														
Female														
Home:														
Male														
Female														
Total:														
Male														
Female														
Grand total														

REMARKS:

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	0	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	

Cholera carrier—23.

DIPHTHERIA REPORTED DURING THE MONTH OF OCTOBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male									1		3	1	4	1
Female					2	1	1		1		2	1	6	2
Home:														
Male														
Female														
Total:														
Male									1		3	1	4	1
Female					2	1	1		1		2	1	6	2
Grand total					2	1	1		2		5	2	10	3

REMARKS:

Total cases reported within the month in the City of Manila		16
Resident cases	10	
Non-resident cases	6	
Resident cases not confirmed as diphtheria	5	
Non-resident cases not confirmed as diphtheria	1	
Total deaths reported within the month in the City of Manila		3
Deaths among resident cases confirmed as diphtheria	1	
Deaths among non-resident cases confirmed as diphtheria	2	

Diphtheria carrier—2.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	8	7	2	2
Varioloid				
Varicella	1			
Smallpox				
Measles	1			
Whooping cough	1		1	
Influenza	19	11	2	3
Bubonic plague				
Beriberi, adult				
Beriberi, infantile	33	21	33	21
Pulmonary tuberculosis	132	97	74	55
Tuberculosis of all forms	6	8	8	8
Encephalitis lethargica				

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	8	1	4	
Varioloid				
Varicella	1			
Smallpox				
Measles	3			
Whooping cough				
Influenza	3	1	1	1
Bubonic plague				
Beriberi, adult	[1]2		[1]1	
Beriberi, infantile	4	6	4	6
Pulmonary tuberculosis	26	6	9	3
Tuberculosis of all forms	2		2	
Encephalitis lethargica				

[1] One (1) permanent residence unknown included.

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINE FOR THE MONTH OF OCTOBER, 1924

Sera and vaccines	On hand October 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diptheric serum (units)	1,340,000		1,340,000	440,000	900,000
Anti-dysenteric serum (ampoules)	145		145	20	125
Anti-tetanic serum (units)	500,000	35,000	535,000	535,000	
Cholera vaccine (c. c.)	2,420	9,000	11,420	10,620	800
Dried vaccine virus (units)	400	40,000	40,400	38,600	1,800
Fresh vaccine virus (units)	57,500	204,000	261,500	175,100	86,400
Gonococcus vaccine (ampoules)		170	170	170	
Mixed cholera-typhoid vaccine (c. c.)	17,170	84,000	101,170	84,870	16,300
Normal horse serum (ampoules)		3	3	3	
Typhoid vaccine (c. c.)	5,820		5,820	840	4,980

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1924

Health districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
No. 1, Intramuros	394	136	230	28
No. 2, Meisic	4,001	166	3,611	224
No. 4, Sampaloc	2,632	231	2,280	121
No. 5, Tondo	1,110	340	729	41
No. 6, Paco	836	115	694	27
Total	8,973	988	7,544	441

Health districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	172	10					172	10
No 2, Meisic	111	5	20	43	460	2,598	591	2,646
No. 4, Sampaloc	230	5	63	81	2,374	574	2,667	660
No. 5, Tondo	326	14	115	31	9	4	450	49
No. 6, Paco	93	5	65	39	1	1	159	45
Total	932	39	263	194	2,844	3,177	4,039	3,410

Vaccine virus:

Received	16,000
Used	13,500
Remained	2,500

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1924

(See "Consolidated Table of Mixed Vaccinations in the City of Manila.")

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1924

Health district	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros					6	4					3	8					9	12
No. 2, Meisic																		
No. 4, Sampaloc					11						3						14	
No. 5, Tondo					11						26						37	
No. 6 Paco					2	1					3	1					5	2
Division of communicable diseases					1,648	2,860					755	1,357					2,403	4,217
Total					1,678	2,865					790	1,366					2,468	4,231

NOTE.—V, in persons never vaccinated before; R. revaccinations. For first and second injections see Table of Mixed (Typhoid and Cholera) vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF OCTOBER, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections [1]		First injections		Second injections		Third injections [1]		First		Second		Third	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	6	13	8	5	......	......	2	5	1	14	......	......	8	18	9	19	(1)	(1)
No. 2, Meisic	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
No. 4, Sampaloc	26	......	18	......	......	......	9	......	5	......	......	......	35	......	23	......	......	......
No. 5, Tondo	73	......	16	......	......	......	154	......	60	......	......	......	227	......	76	......	......	......
No. 6, Paco	14	9	3	4	......	......	7	4	......	4	......	......	21	13	3	8	......	......
Division of communicable diseases	2,168	4,537	1,857	3,353	......	......	1,188	2,028	823	1,515	......	......	3,356	6,565	2,680	4,868	......	......
Total	2,287	4,559	1,902	3,362	......	......	1,360	2,037	889	1,533	......	......	3,647	6,596	2,791	4,895	......	......

NOTE.—V, in persons never vaccinated before; R, revaccinations.

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[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[a]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	10,411	1,834	5,719	2,858
Agusan	6,348	1,405	2,066	2,877
Albay	84,366	13,591	45,072	25,703
Antique	17,946	8,665	4,742	4,539
Bataan	7,940	938	4,273	2,729
Batanes	2,543	354	975	1,214
Batangas	79,046	12,861	47,752	18,433
Bohol	150,350	26,787	74,865	48,698
Bukidnon	3,375	470	1,486	1,419
Bulacan	26,117	7,733	9,585	8,799
Cagayan	27,154	8,684	8,529	9,941
Camarines Norte	5,148	2,297	1,567	1,279
Camarines Sur	28,654	5,910	12,901	9,843
Capiz	31,903	12,355	8,952	10,596
Catanduanes	9,787	3,578	1,619	4,590
Cavite	25,569	7,375	5,586	12,608
Cebu	82,966	28,633	19,260	35,073
Cotabato	12,806	3,847	3,069	5,890
Culion Leper Colony	503	49	402	52
Davao	4,432	2,068	1,157	1,207
Ilocos Norte	66,731	10,330	36,347	20,054
Ilocos Sur	30,868	5,592	14,869	10,407
Iloilo	64,498	23,665	22,810	18,023
Isabela	9,568	2,882	3,033	3,653
Laguna	30,252	6,417	11,298	12,537
Lanao	7,445	932	4,870	1,643
La Union	59,887	10,239	35,818	13,830
Leyte	48,163	14,429	17,749	15,985
Marinduque	8,740	1,828	4,081	2,831
Masbate	9,899	3,356	3,008	3,535
Mindoro	5,527	1,319	2,387	1,821
Misamis	18,375	5,344	5,853	7,178
Mountain Province	24,524	7,250	10,352	6,922
Nueva Ecija	26,292	6,783	8,173	11,336
Nueva Vizcaya	9,260	1,281	4,449	3,530
Occidental Negros	46,888	22,804	11,552	12,532
Oriental Negros	29,977	5,869	13,313	10,795
Palawan	5,111	1,787	2,235	1,089
Pampanga	128,280	20,032	102,568	5,680
Pangasinan	74,845	23,075	12,893	38,877
Rizal	34,189	7,217	17,671	9,301
Romblon	10,228	2,780	2,738	4,710
Samar	89,682	17,551	56,579	15,552
Sorsogon	16,109	5,266	5,739	5,104
Sulu	9,548	4,469	2,425	2,654
Surigao	6,802	2,370	2,433	1,999
Tarlac	21,888	3,917	12,315	5,656
Tayabas	37,385	10,840	14,779	11,766
Zambales	8,159	1,548	4,179	2,432
Zamboanga	27,098	9,798	13,021	4,279
Total	1,582,077	390,404	719,114	472,559

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[a] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY 1924 [a]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	638	166	1,625	940	2,484	3,759	4,747	4,865
Agusan	143	106	301	360	456	619	900	1,025
Albay	4,690	1,607	7,968	4,060	24,875	14,493	37,603	20,160
Antique	1,951	413	4,464	1,472	3,578	2,268	9,993	4,153
Bataan	593	180	1,464	1,078	2,261	2,265	4,318	3,523
Batanes	217	76	283	141	980	661	1,480	778
Batangas	3,931	893	7,342	1,648	16,712	12,053	27,985	14,594
Bohol	4,621	767	16,591	4,101	55,273	32,692	76,485	37,560
Bukidnon	22	13	129	169	501	850	652	1,032
Bulacan	3,074	425	5,425	1,623	5,683	3,476	14,183	5,529
Cagayan	3,322	550	6,362	1,606	6,030	4,452	17,714	6,608
Camarines Norte	551	119	1,296	429	1,709	899	3,556	1,447
Camarines Sur	2,129	906	4,774	2,434	8,449	5,604	15,352	8,944
Capiz	2,284	523	5,551	1,922	9,528	6,399	17,363	8,844
Catanduanes	1,632	435	1,840	815	1.217	988	4,689	2,238
Cavite	3,291	465	5,307	1,181	10,851	4,420	19,449	6,066
Cebu	8,626	5,062	13,125	4,888	11,051	9,843	32,802	19,793
Cotabato	153	202	684	1,030	1,366	3,181	2,203	4,413
Culion Leper Colony	12	2	18	11	181	102	211	115
Davao	228	104	472	271	1,619	1,325	2,319	1,700
Ilocos Norte	2,890	531	7,984	2,134	20,938	21,901	31,812	24,566
Ilocos Sur	1,501	216	4,537	1,471	9,629	7,673	15,667	9,360
Iloilo	6,865	1,106	13,504	2,635	17,499	9,782	37,868	13,523
Isabela	250	214	1,353	1,335	2,465	2,615	4,068	4,164
Laguna	1,699	476	3,882	1,522	7,845	11,535	13,426	13,533
Lanao	292	40	973	202	1,769	1,218	3,034	1,460
La Union	2,344	473	6,806	2,609	13,803	11,500	22,953	14,582
Leyte	2,552	1,243	7,552	2,964	6,462	4,614	16,566	8,821
Marinduque	511	222	1,025	301	2,863	1,572	4,399	2,095
Masbate	318	143	1,177	481	2,139	1,815	3,634	2,439
Mindoro	243	53	800	232	1,687	1,255	2,730	1,540
Misamis	595	371	1,460	1,073	4,612	3,241	6,667	4,685
Mountain Province	1,086	251	3,735	1,667	5,751	3,797	10,572	5,715
Nueva Ecija	832	182	804	347	787	893	2,423	1,422
Nueva Vizcaya	702	119	1,950	388	4,176	1,481	6,828	1,988
Occidental Negros	8,201	1,969	10,868	4,249	7,381	3,625	26,445	9,843
Oriental Negros	2,282	752	5,866	2,378	9,003	6,849	17,151	9,979
Palawan	190	26	623	214	2,024	309	2,837	549
Pampanga	5,269	633	11,142	2,924	37,148	41,076	53,559	44,633
Pangasinan	11,296	2,207	17,853	5,667	15,999	12,202	45,148	20,076
Rizal	3,348	865	4,367	2,385	7,332	8,247	15,047	11,497
Romblon	532	216	1,835	890	2,402	2,188	4,269	3,294
Samar	2,076	789	10,701	3,634	28,774	12,512	41,551	16,935
Sorsogon	1,592	692	2,501	1,358	4,506	3,355	8,599	5,405
Sulu	433	124	1,652	688	3,417	2,083	5,502	2,895
Surigao	204	104	782	480	1,609	1,641	2,595	2,225
Tarlac	2,295	548	2,635	1,990	4,684	7,484	9,614	10,022
Tayabas	2,809	802	6,482	1,989	13,333	6,802	22,624	9,593
Zambales	764	352	788	582	1,173	2,226	2,725	3,160
Zamboanga	536	529	1,681	1,435	4,180	7,089	6,397	9,053
Total	106,615	29,262	221,805	80,348	412,194	312,829	740,614	422,439

[a] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[a]

Provinces	Number of injections made in— Males: First injections A.	First injections C.	Second injections A.	Second injections C.	Third injections A.	Third injections C.
Albay	9,013	6,997	413	329	......	......
Antique	70	60	30	40	......	......
Batangas	16,842	11,691	307	281	......	......
Bulacan	3,767	5,807	......	......	......	......
Cagayan	237	237	142	99	......	......
Camarines Sur	138	10	......	......	......	......
Catanduanes	302	426	246	361	......	......
Cebu	231	65	194	86	......	......
Iloilo	156	158	53	68	......	......
Isabela	9	......	......	......	......	......
Laguna	1,077	850	377	264	......	......
Mindoro	13	8	......	......	......	......
Pampanga	401	383	231	288	......	......
Pangasinan	2,372	3,041	960	1,768	......	......
Rizal	583	98	399	40	......	......
Sorsogon	43	31	......	......	......	......
Total	35,254	29,852	3,352	3,624	......	......

Provinces	Number of injections made in— Females: First injections A.	First injections C.	Second injections A.	Second injections C.	Third injections A.	Third injections C.	Total number injected: First	Second	Third
Albay	8,027	6,020	483	152	......	......	30,057	1,377	......
Antique	25	30	40	20	......	......	185	130	......
Batangas	17,486	10,622	303	209	......	......	56,641	1,100	......
Bulacan	3,651	4,517	......	......	......	......	17,742	......	......
Cagayan	158	208	105	106	......	......	840	452	......
Camarines Sur	57	21	......	......	......	......	226	......	......
Catanduanes	86	147	73	127	......	......	961	807	......
Cebu	329	78	224	83	......	......	708	587	......
Iloilo	63	91	37	44	......	......	458	202	......
Isabela	10	2	......	......	......	......	21	......	......
Laguna	886	679	359	176	......	......	3,492	1,176	......
Mindoro	9	6	......	......	......	......	36	......	......
Pampanga	467	299	268	195	......	......	1,550	982	......
Pangasinan	2,363	2,967	1,043	1,671	......	......	10,743	5,442	......
Rizal	376	55	225	41	......	......	1,112	705	......
Sorsogon	29	17	......	......	......	......	120	......	......
Total	34,022	25,759	3,160	2,824	......	......	124,887	12,960	......

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[a] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[a]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	92	41	26	21	26	5
Batangas	11	39	....	3	....	....
Bulacan	1,655	919	1,278	705	980	705
Camarines Sur	1,216	615	511	178	270	64
Catanduanes	85	4	83	4	1	....
Cotabato	33	....	26	....	....	....
Davao	10	....	15	....	....	....
Iloilo	125	62	124	60	76	30
Laguna	2,563	1,166	1,294	632	751	153
Mountain Province	576	184	117	31	94	10
Misamis	37	5	....	....	....	....
Nueva Ecija	864	670	464	446	132	198
Pampanga	1,292	1,381	838	921	330	519
Pangasinan	693	510	262	217	77	102
Rizal	551	221	353	98	338	87
Romblon	101	247	7	9	1	....
Tarlac	....	....	....	....	8	....
Total	9,916	6,068	5,399	3,330	3,104	1,937

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	18	45	29	31	147
Albay	55	62	17	36	5	14	250	120	50
Batangas	22	21	4	3	....	....	93	10	..
Bulacan	1,756	935	1,415	728	1,121	678	5,265	4 121	3 484
Camarines Sur	973	451	436	218	164	60	3,255	1,323	558
Catanduanes	111	5	110	5	....	....	205	202	1
Cotabato	19	....	9	....	....	....	52	35	....
Davao	....	....	....	....	....	....	10	15	....
Iloilo	94	60	84	56	51	28	341	324	185
Laguna	2,915	1,625	1,751	924	1,150	474	8,269	4 601	2,528
Mountain Province	169	15	79	17	70	11	944	244	185
Misamis	20	7	....	....	....	....	69		..
Nueva Ecija	489	603	309	455	138	178	2,626	1,674	646
Pampanga	1,303	1,161	960	840	309	396	5,137	3,559	1,554
Pangasinan	697	455	296	210	58	66	2,355	985	303
Rizal	547	152	317	95	324	68	1,471	863	817
Romblon	44	184	24	26	1	....	576	66	2
Tarlac	....	....	....	....	14	1	....	....	23
Total	9,226	5,737	5,822	3,622	3,423	2,019	30,947	18,173	10,483

[a] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[a]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	77	119	166	114	....	....
Albay	178	86	49	7	....	....
Antique	1,152	1,246	536	758	....	....
Bataan	435	41	215	17	....	....
Batanes	196	386	....	....	....	....
Batangas	3,891	2,839	1,645	1,179	....	....
Bohol	505	....	543	....	....	....
Bulacan	797	1,153	756	861	....	....
Cagayan	1,762	885	847	377	....	....
Camarines Norte	498	45	154	....	....	....
Camarines Sur	796	405	102	72	....	....
Capiz	1,855	952	605	349	....	....
Cavite	4,924	7,438	3,648	6,539	....	....
Cebu	1,421	242	780	111	....	....
Cotabato	128	5	....	....	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	2,271	1,874	601	413	....	....
Ilocos Sur	1,595	414	1,827	332	423	16
Iloilo	792	469	576	326	....	....
Isabela	172	22	116	18	....	....
Laguna	1,929	1,165	672	397	....	....
Lanao	219	127	89	122	....	....
La Union	2,426	1,088	1,515	916	....	....
Marinduque	1,010	794	853	1,127	....	....
Masbate	222	191	167	165	....	....
Mindoro	136	123	49	10	....	....
Misamis	1,250	828	340	158	....	....
Mountain Province	180	685	14	4	....	....
Nueva Ecija	1,144	782	590	790	....	....
Nueva Vizcaya	280	192	219	192	....	....
Occidental Negros	1,774	649	878	227	....	....
Oriental Negros	1,137	2,113	416	620	....	....
Palawan	70	....	....	....	....	....
Pampanga	3,857	4,913	2,697	3,722	67	190
Pangasinan	5,358	4,024	3,681	2,694	....	....
Rizal	9,207	7,651	2,678	1,519	....	....
Romblon	205	43	72	28	....	....
Samar	11	26	41	....	....	....
Sorsogon	389	660	26	5	....	....
Sulu	103	8	....	....	....	....
Surigao	248	165	164	107	....	....
Tarlac	1,678	1,738	737	1,015	....	....
Tayabas	2,815	934	902	564	....	....
Zambales	827	948	753	706	....	....
Zamboanga	847	461	....	....	....	....
Total	60,781	48,852	30,719	26,561	490	206

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[a] Incomplete, reports from other provinces not yet received.

A. means persons of 15 and over 15 years of age; C. below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [a]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	56	129	117	128	......	......	381	525	......
Albay	198	68	81	6	......	......	530	143	......
Antique	1,367	1,122	500	604	......	......	4,887	2,398	......
Bataan	312	40	214	24	......	......	828	470	......
Batanes	81	198	......	......	......	......	806	......	......
Batangas	4,138	2,484	1,565	934	......	......	13,352	5,323	......
Bohol	223	......	398	......	......	......	728	941	......
Bulacan	712	763	417	631	......	......	3,425	2,665	......
Cagayan	1,194	793	740	398	......	......	4,634	2,362	......
Camarines Norte	357	23	71	17	......	......	923	242	......
Camarines Sur	420	277	75	59	......	......	1,898	308	......
Capiz	1,307	667	434	96	......	......	4,781	1,484	......
Cavite	4,278	5,932	3,262	5,498	......	......	22,567	18,967	......
Cebu	1,036	305	583	151	......	......	3,004	1,575	......
Cotabato	31	6	......	......	......	......	170	......	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	2,337	1,820	722	499	......	......	8,302	2,235	......
Ilocos Sur	902	471	1,196	265	248	6	3,382	3,640	693
Iloilo	485	435	416	899	......	......	2,181	1,717	......
Isabela	144	17	120	12	......	......	355	266	......
Laguna	1,773	1,450	768	412	......	......	6,317	2,249	......
Lanao	125	107	100	......	......	......	578	311	......
La Union	1,682	929	1,048	563	......	......	6,075	4,042	......
Marinduque	910	903	564	973	......	......	3,617	3,517	......
Masbate	149	245	112	123	......	......	807	567	......
Mindoro	66	68	6	2	......	......	393	67	......
Misamis	903	608	281	186	......	......	3,589	965	......
Mountain Province	104	196	5	3	......	......	1,165	26	......
Nueva Ecija	435	348	407	679	......	......	2,709	2,466	......
Nueva Vizcaya	188	112	153	111	......	......	772	675	......
Occidental Negros	1,408	689	852	317	......	......	4,520	2,274	......
Oriental Negros	838	1,309	447	510	......	......	5,397	1,993	......
Palawan	......	......	......	......	......	......	70	......	......
Pampanga	3,497	3,634	2,368	2,785	94	179	15,901	11,572	530
Pangasinan	5,016	4,121	3,277	2,700	......	......	18,519	12,352	......
Rizal	7,984	6,557	1,941	1,025	......	......	31,399	7,163	......
Romblon	155	52	44	18	......	......	455	162	......
Samar	......	46	......	26	......	......	83	67	......
Sorsogon	207	515	24	7	......	......	1,771	62	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	52	31	210	115	......	......	496	596	......
Tarlac	928	1,387	366	725	......	......	5,726	2,843	......
Tayabas	2,074	647	704	258	......	......	6,470	2,428	......
Zambales	660	757	635	597	......	......	3,192	2,691	......
Zamboanga	549	539	......	......	......	......	2,396	......	......
Total	49,315	40,824	25,193	21,876	342	185	199,772	104,349	1,223

[a] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF OCTOBER, 1924

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF OCTOBER, 1924

Province and town	Case	Death
Pangasinan:		
Lingayen	1	1
Total	1	1

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF OCTOBER, 1924

	Health districts—					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending October 1, 1924:						
Minor	60	49	28	45	35	217
Sewer	10	58	9	12	2	91
Vacating	1	8	4	9	16	38
Filling	7	11	14	6	5	43
Total	78	126	55	72	58	389
Orders issued during the month:						
Minor	15	12	2	5	3	37
Sewer	1			1	1	3
Vacating	1					1
Filling	1					1
Total	18	12	2	6	4	42
Grand total	96	138	57	78	62	431
Orders completed during the month:						
Minor	7	13	4	4	4	32
Sewer		4				4
Vacating				6		6
Filling						
Total	7	17	4	10	4	42
Orders cancelled during the month:						
Minor	1				1	2
Sewer						
Vacating						
Filling						
Total	1				1	2
Orders pending October 31, 1924:						
Minor	67	48	26	46	33	220
Sewer	11	54	9	13	3	90
Vacating	2	8	4	3	16	33
Filling	8	11	14	6	5	44
Total	88	121	53	68	57	387
Strong material plans approved:						
New buildings including additions and alterations	11	16	31	27	10	95
Permits for minor building constructions:						
Approved	17	21	24	28	19	109
Disapproved	7	4	4	17	3	35
New buildings completed	10	20	13	9	7	59
Light and mixed material constructions:						
Permits approved	10		13	10	7	40
Permits disapproved	2		3	25	2	32
Total number of building projects passed upon	57	61	88	116	48	370
Prosecutions:						
Convictions		1				1
Dismissals						
Amount of fines		₱10				₱10.00
Plumbing permits issued	31	36	47	58	14	186
Plumbing projects completed	28	52	31	26	7	144
Premises connected to the sanitary sewer to September 30, 1924	1,760	2,934	1,130	622	443	6,889
Premises connected during the month	8	9	2	1	3	23
Total	1,768	2,943	1,132	623	446	6,912

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV NOVEMBER, 1924 No. 11

Entered at the Manila Post Office as second-class matter.

> **For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir RONALD ROSS.**

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2. A Few of the Many Difficulties Encountered, Etc.
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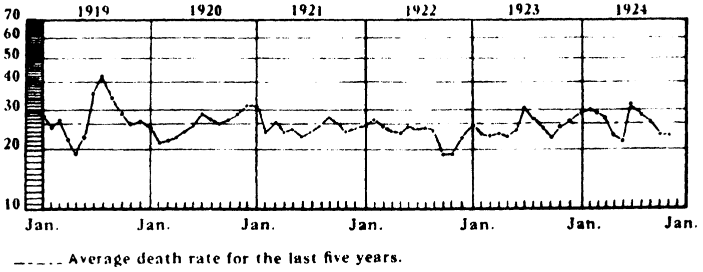
ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV NOVEMBER, 1924 No. 11

GO TO THE BARRIOS AND PREACH YOUR MISSION

By TEOFILO CORPUS
Medical Inspector, P. H. S.

While cities and towns in this country are steadily progressing as to sanitation, the barrios still seem to lag behind. However, it is to be admitted in that much progress along this line has already been attained in the barrios. Superstitions and ignorance are still somewhat rampant. The laws are not being strictly followed. Faith in modern medicine is slight. Living conditions need much to be desired. People have not come to the full realization of the value of proper housing. The tables and "dulang" (low legged tables) hardly contain the proper quality and quantity of the well-known balanced diets, which are necessary for the up-building of the human body.

Here are some specific instances. A man gets sick of typhoid fever. He is treated by the herbman, and "hands-off" for the doctor. They need to be told of the nature of typhoid fever or any communicable diseases and the ways and means of preventing them.

Living conditions are untidy. The premises are dirty. Houses show relics of primitive people. Everything shows "slow motion upward." They need to be enlightened!

The barrio, in general, does not seem to have the taste for sanitation. The streets and canals are neglected. The barrio authorities must be convinced of this necessity!

Every meal time, the tables lack of the necessary foods to keep the human bodies healthy. They have monotonous foods. They need to be told of the importance of the well-balanced diets!

The babies and small children get sick. Many die without the proper care and remedy. They need to be taught of the proper care of these babies!

The people unconsciously throw garbage and sewage anywhere. This practice creates, foci of infection and disease, breeding-places for flies and mosquitoes. Some volunteers are needed to show them the right way!

Bodily baths in many communities are neglected. Even the wearing of clean clothing often is not practiced. They must be educated as to cleanliness!

The barrio people use doubtful water for drinking purposes. They must be convinced of the safety of artesian-well water!

Persons suffering from dangerous communicable diseases are daily visited by their neighbors and relatives, and these diseases are thus propagated. They must be told of this danger!

Here are some of the problems before us now. Shall we not mobilize our armies of health workers, besiege the barrios, and centralize our forces at these points?

Shall we not permanently establish our dispensaries here, widely distribute medicines freely and care for the ignorant sick, leaving only a little to the towns and cities which do not need them badly?

Shall we not double the forces of our lecturers of the gospel of health and direct them by rush special orders to proceed to these places to start this campaign to relieve human suffering? Shall we not extend this work in every barrio of the Philippine Islands?

Shall we not multiply the number of health leaflets, bulletins, and shall we not send our health films and slides for exhibitions and demonstrations to these places to battle against disease?

Now, observe the change! From this direction come the Red Cross workers garbed as doctors and nurses; from this other direction come the Public Welfare workers; from the direction yonder comes the Philippine Health Service train of men and women; and from other directions come the educational centers and civico-social and private agencies composed of similar forces.

Now, these armies of relievers of human suffering come nearer and approach each other to form a big stronghold, fortified by a common pillar. This stronghold represents all these institutions working together for a common end, and the pillar represents the work of "coöperation."

And the result after all this mobilization and struggle! A new era has come. Every one rests contented. All have succeeded!

When will this beautiful dream be realized?

A FEW OF THE MANY DIFFICULTIES ENCOUNTERED IN THE EFFORTS OF THE PHILIPPINE HEALTH SERVICE TO EXTEND THE BLESSINGS OF HOSPITAL SERVICE IN THE PHILIPPINES

By Sixto Y. Orosa, M.D.
Acting Chief, Division of Hospitals
Member and Secretary, Hospital Committee

One would say that such a humanitarian and plausible enterprise like the extension of the blessings of hospital service all over the Philippines where they are urgently needed, would not encounter obstacles and difficulties or would have a smooth, easy, and pleasant way. Unfortunately, however, such is not the case. The difficulties which have been, and are being encountered, by the Philippine Health Service in its attempts to extend the frontiers of hospital service in the provinces are many and overtaxing, and require the greatest amount of patience on the part of those upon whose shoulders have fallen this arduous task. Of these difficulties the following may be mentioned:

1. The question of insular aid.
2. The question of jurisdiction.

Many are those who are opposed to the granting of insular aid on the ground that a hospital in a province is or should be a provincial institution. But not to grant insular aid for the construction and maintenance of hospital in the provinces is tantamount to postponing indefinitely the extension of this much-needed service as the greatest majority of our provinces are unable to construct or maintain hospitals without insular aid. The insular aid needed is relatively small and a program of gradual decrease of the same until it is entirely withdrawn can be adapted. To those who claim that the insular purse is so lean as to make the extension of aid an unbearable drain upon our resources, I wish to request that our Government expenditures be examined impartially upon the basis of more urgent, very urgent, and urgent and thus allot the necessary funds in an equitable way. In analyzing our disbursements on this basis, I further desire that the factors which determine or influence the sources of our revenues be considered upon the basis of most important, very important, and important with a view to stabilizing or promoting thru liberal appropriations those factors which enhance the enrichment of our public coffers. I feel confident that in the consideration of these factors the health and hospital services will more than hold their own.

In order to show the urgency of hospital service in the provinces, it is necessary to study the existing hospital facilities at present. The following data are therefore in order:

BED CAPACITY OF THE HOSPITALS IN THE PHILIPPINES

The Philippine Health Service is at present administering, in the provinces, 4 provincial and 2 insular emergency hospitals of from 6 to 15 beds (all in charge of physicians), 12 insular and 4 provincial general hospitals of from 20 to 88 beds (excluding the hospitals in Culion), a total of 22 hospitals with a total bed capacity of 777. The Bureau is likewise administering 2 contagious hospitals with a total bed capacity of 1,240, three leprosaria with a total population of 5,500, and three penal hospitals with a total bed capacity of 365.

The Department of the Interior is administering 2 general hospitals with a total bed capacity of 673 beds while the Public Welfare Commissioner is in charge of 7 maternity hospitals with a total number of 81 beds. The Catholic and Protestant missions are maintaining 19 hospitals (including those in Manila) with a total bed capacity of 965, while certain private societies are maintaining 4 hospitals and sanatoria, 2 in Manila and 2 in the provinces with a total bed capacity of 260.

The preceding figures may be summarized as follows (Culion and penal hospital excluded):

	Emergency hospitals No.	Bed capacity	General hospitals No.	Bed capacity	Contagious hospitals No.	Bed capacity
Philippine Health Service	6	63	16	777	2	1,240
Department of the Interior			2	673		
Mission			19	965		
Private society			[a] 4	260		
Total	6	63	41	2,675	2	1,240

[a] Including 2 sanatoria.

POPULATION IN THE PROVINCES SERVED AND NOT SERVED BY HOSPITALS

[The figures given below are taken from the Census Bulletin No. 4]

Population of provinces with Government hospital of less than 20 beds (excluding the provinces having maternity hospitals of from 6 to 16 beds under the Public Welfare Commissioner and provinces having Government emergency hospitals but at the same time having hospitals of more than 20 beds):

1. Nueva Vizcaya	35,819
2. Pampanga	257,641
3. Rizal	230,206
Total	523,665

Population of provinces with Government hospitals of more than 20 beds:

1. Agusan	44,358
2. Albay	321,745
3. Camarines Sur	218,980
4. Cebu	857,410
5. Cotabato	169,191
6. Davao	119,304
7. Iloilo	508,272
8. Lanao	94,946
9. Leyte	597,995
10. Misamis	189,981
11. Mountain Province	250,023
12. Palawan	69,061
13. Sulu	157,975
14. Tarlac	172,022
15. Zamboanga	147,991
Total	3,938,254

Population of provinces with private (mostly mission) hospitals:

1. Bohol	359,600
2. Cagayan	199,938
3. Capiz	292,496
4. Davao	119,304
5. Ilocos Norte	218,951
6. Ilocos Sur	217,410
7. Iloilo	508,272
8. La Union	160,575
9. Leyte	597,995
10. Misamis	198,981
11. Mountain Province	250,023
12. Oriental Negros	272,236
13. Zamboanga	147,991
Total	3,543,772

Population of provinces without any hospital (including the provinces having maternity hospitals of from 6 to 16 beds under the Public Welfare Commissioner):

1. Abra	71,721
2. Antique	159,644
3. Bataan	58,380
4. Batanes	8,214
5. Batangas	340,135
6. Bukidnon	47,811
7. Bulacan	248,863
8. Camarines Norte	58,822
9. Cavite	157,347
10. Isabela	112,965
11. Laguna	195,371
12. Marinduque	56,876
13. Masbate	67,334
14. Mindoro	73,822
15. Nueva Ecija	227,636
16. Oriental Negros	397,325
17. Pangasinan	567,644
18. Romblon	64,576
19. Samar	380,211
20. Sorsogon	178,362
21. Surigao	122,022
22. Tayabas	211,596
23. Zambales	83,620
Total	3,882,357

The foregoing figures show the population of provinces with and those without hospitals. In round figures 4,000,000 may be said to have no hospital facilities of any kind. The population of the provinces having private (mission) hospitals is placed at 3,500,000, that of the provinces with emergency hospitals (less than 20 beds), at 500,000 and that of the provinces with Government hospitals of more than 20 beds, at 4,000,000. Considering that the private hospitals are accessible to only 10 per cent of the population (exception, however, must be made of the private hospitals at Iloilo where practically all the indigent patients are being accommodated), that the emergency hospitals are accessible to 5 per cent of the population, and that the hospital service of the Government hospitals with more than 20 beds reaches 50 per cent of the population (this is a very liberal estimate, indeed), we have

	Population served	Population not served
Emergency hospitals	25,000	475,000
Private hospitals	350,000	3,150,000
Government hospitals (20 beds or more)	2,000,000	2,000,000
No hospital of any kind	....	4,000,000
Total	2,375,000	9,625,000

Considering that the population of Manila is 300,000 and that, 80 per cent is reached by hospital service, 240,000 of the Manila residents may be said to have access to hospital facilities. According to the best hospital authorities there should be at least 5 beds to each 1,000 inhabitants. With this ratio as basis we ought to have in the Philippines something like 60,000 hospital beds, whereas we have at present less than 4,000 (excluding the hospitals in Culion which are accessible only to its inmates).

No more eloquent figures than the foregoing could be availed of to convince anyone of the importance of immediately extending the hospital service in many parts of the Philippines.

THE QUESTION OF INSULAR AID

I have stated that the insular aid for hospital operation is negligible compared with the allotments for other activities of equal or lesser importance. Supposing that each of our regularly organized provinces (for which the Hospital Act is intended) were to operate a hospital the bed capacity of which is to be determined by the ability of a province to finance it on the basis of 3 per cent of the general funds of each province and the municipalities within said province, the insular aid for hospital operation would be only ₱500,000 for one year. It is of course understood that a province will not be authorized to construct a hospital the bed capacity of which would exceed its financial ability to operate it.

The Philippine Health Service is convinced that a great moral duty impends upon our Government to initiate the provinces to construct and maintain hospitals. The Health Service believes that within five or at the most ten years, the value of a hospital in a community shall have been sufficiently demonstrated as to make a gradual progressive withdrawal by say 5 per cent or 10 per cent every year, possible, so that in the second year the aid is reduced to 40 per cent, in the third, it is reduced to 30 per cent, and so on, until it is entirely withdrawn at the end of 5 or 10 years as the case may be, so that at the lapse of this period the province will begin to bear all the operation expenses by itself alone, without insular aid. It is calculated that once a community has been convinced of the blessings of hospital service, that community will demand its continuation and will be willing to pay its price. Incidentally, the following figures roughly show the bed capacity of the hospital each province can maintain based upon 3 per cent of the general funds for 1921:

BED CAPACITY OF THE HOSPITAL AS DETERMINED BY FINANCIAL ABILITY OF EACH PROVINCE TO OPERATE A HOSPITAL

[These figures are based upon the general revenues of the following provinces for the year 1921

Province	Health funds representing 3 per cent of the general funds of the province and municipalities	Total funds for hospital operation: Health fund plus an insular aid of a like amount	Bed capacity on the basis of ₱1,000 per bed per year
1. Abra	₱1,601.10	₱3,202.20	3
2. Albay	17,453.01	34,906.02	35
3. Antique	5,685.57	11,371.14	11
4. Bataan	2,522.88	5,045.76	5
5. Batangas	25,718.73	51,473.46	51
6. Bohol	15,315.66	30,631.32	30
7. Bulacan	23,048.70	46,097.40	46
8. Cagayan	16,515.75	33,031.50	33
9. Camarines Norte	2,954.85	5,909.70	6
10. Camarines Sur	13,264.29	26,528.78	26
11. Capiz	10,146.12	20,292.24	20
12. Cavite	12,642.90	25,285.80	25
13. Cebu	40,003.14	80,006.28	80
14. Ilocos Norte	8,257.65	16,515.30	16
15. Ilocos Sur	9,576.81	19,153.62	20
16. Iloilo	28,758.72	57,517.44	57
17. Isabela	6,417.33	12,834.66	12
18. Laguna	17,493.39	34,986.78	35
19. La Union	10,153.23	20,306.46	20
20. Marinduque	3,023.37	6,046.74	6
21. Leyte	24,624.15	49,248.30	50
22. Masbate	2,189.07	4,378.14	4
23. Mindoro	4,843.20	6,986.40	7
24. Misamis	7,443.60	14,887.20	14
25. Nueva Ecija	18,841.89	37,683.78	37
26. Occidental Negros	27,573.15	55,146.30	55
27. Oriental Negros	11,365.56	22,731.12	22
28. Pampanga	19,216.89	38,433.78	38
29. Pangasinan	30,860.73	61,721.46	61
30. Rizal	24,235.76	48,470.52	48
31. Romblon	3,801.30	7,602.60	8
32. Samar	12,126.72	24,253.44	24
33. Sorsogon	5,310.38	10,620.96	10
34. Surigao	7,716.33	15,432.66	15
35. Tarlac	15,207.63	30,415.26	30
36. Tayabas	24,436.20	48,872.40	48
37. Zambales	4,986.84	9,973.68	10
Total	515,359.20	1,031,018.40	1,010

THE QUESTION OF JURISDICTION

We now come to the difficulties incident to the question of jurisdiction. Last year the question was whether the Director of the Philippine General Hospital (Department of the Interior) or the Director of Health (Department of Public Instruction) should have control over the hospitals constructed or to be constructed under the Hospital Act (3114). The Legislature appropriated last year (Public Works Act) ₱400,000 for hospitals with the proviso that the Director of the Philippine General Hospital would have control over the hospitals. This item with its proviso was vetoed by the Governor-General. Without mentioning the reasons for and against the proviso and without wishing to enter into discussion as to the propriety or impropriety of the veto, many are agreed that the present Philippine laws and the present politico-national circumstances make it expedient at this time to place the control of these hospitals under the Director of Health if we consider the construction of hospitals the issue of paramount importance.

The funds with which the provinces partly construct and intend partly to maintain the hospitals are by law placed under the control of the Director of Health, and amendment to this law placing said funds under the control of another bureau will mean radical changes in our present health organization as to make it inadvisable. To place, however, the funds for hospitals partly under one bureau chief and partly under another will result in duplicity of authority and perhaps in inevitable conflicts and inefficiency. The logic of facts and actuality seems, therefore, to make it compelling that the debated control should fall under the Director of Health.

This year, however, the question of jurisdiction has assumed a new aspect. The discussion last year had hardly subsided when new difficulties surged accross the path of hospital progress and expansion in the provinces, the most formidable-looking of which is the effort on the part of some in authority or influence to place the management and control of the hospitals constructed or to be constructed under Act 3114 under the respective provincial boards. At first sight, invoking reasons of local autonomy, the idea seems plausable. *This idea has the fire of popularity, but it has, however, at the same time the flames of destruction.* It is indeed unfortunate that such an apparently harmless and evidently humanitarian institution like the hospital should become the subject of political bickerings. With all due respect to those who may differ from me in this important question I am convinced that to place the administration of the provincial hospitals under the respective provincial boards will be entirely disastrous to the efficiency and success of the hospital and will spell utter failure for the institution.

The hospital problem has finally been reduced to the following:

1. Hospitals are urgently needed in the provinces.
2. Insular aid is imperative for the construction, equipment, operation, and maintenance of these hospitals.
3. The present laws and circumstances are such as to make it more expedient at this time to place the control of the hospitals under the Philippine Health Service.

In response to the great demand for hospitals from the provinces, the House of Representatives passed on September 4, 1924, the Hospital bill fathered by Representative Antonio de las Alas. This bill was passed by the Senate on September 11th with a few amendments which were readily accepted by the lower house. This bill amends Act 3114 otherwise known as the Hospital Act and its main provisions are the following:

1. The sum of ₱1,000,000 is appropriated to be released by the Governor-General with the approval of the Council of State as aid to regularly organized provinces for the construction, equipment, operation, and maintenance of hospitals in said provinces.

2. The insular aid for construction and equipment shall be (*a*) 60 per cent for first class provinces, (*b*) 65 per cent for second class provinces, and (*c*) 70 per cent for the other provinces.

3. The insular aid for operation and maintenance shall be 50 per cent of the total cost for the first year, which aid shall be decreased by five per cent every year until it is automatically discontinued at the end of 10 years.

4. In order to provide funds for the operation and maintenance of the hospital, each municipality within the province shall set aside annually a sum of not less than three but not more than five per cent of its general funds. The municipality in which the hospital is located shall set aside annually a sum of not less than seven per cent of its general funds.

5. The Philippine Health Service shall have control and direction of the management of the hospitals.

As informal assurance have been received from the Governor-General that he would sign the bill, for all intents and purposes the same may be considered a law, and as practically all the provinces not yet having hospitals have applied for the construction of the same, it is to be hoped that in a near future hospitals shall have been constructed in every province of the Philippines.

This Act-to-be may yet be among those which will go down in history as one of the most constructive pieces of legislation enacted by the Philippine Legislature.

MISCELLANEOUS

TROPICAL ULCER [1]

Tropical ulcer is caused by spiral germs called spirochetes. It occurs more commonly among debilitated children. Among school children who wear shoes, slippers, or wooden shoes, it is not common. Among those barefooted whose feet often get wet and soiled with mud, and especially with some forms of grass blight, it is common. This is also true among school children living in the same house or sitting side by side in the school room.

The ulcers begin to appear in the month of May, and increase in the months of August, September, and October when the weather is damp. The decrease becomes noticeable in November and December when the weather begins to dry.

An ulcer will begin from a mere scratch or from an itch. It is commonly found on the legs, feet, and ankles. It varies in size from a small pea to eight centimeters in diameter. Ulcers of enormous size may sometimes be found by the fusion of several small ulcers. They may involve bones. The most neglected ulcers are blackish and contain disintigrated materials.

The ulcer does not seem to trouble the affected child. He goes about in the usual way. If he keeps the ulcer clean, he feels no pain, or the odor of the discharge annoys him. It is itchy, however, and in many cases scratching increases the size of the ulcer.

The affected child should not be allowed to come in contact with other children. In the schoolroom he should be separated from the rest of the class, but must not be excluded. Clean homes and sanitary surroundings, clean clothing, frequent bathing, and fresh air are among the important hygienic measures. The constant wearing of shoes will prevent the accumulation of dirt about the naked feet and legs, and this will prevent the disease.

School children suffering from ulcers should regularly go to any of the Philippine Health Service dispensaries for treatment until cured. A three per cent solution of neosalvarsan, applied locally, has been found effective.

A total of 7,788 cases of ulcers were reported and given treatment in municipal dispensaries for 1922, 6,324 of which were discharged as cured.

NEW ASSIGNMENTS

Dr. Ramon V. Eleazar has been appointed as assistant surgeon and resident physician of the Lanao Public Hospital. He will leave on steamship *Nuestra Señora de Alba* on November 4, 1924, for his station.

Medical Inspector Jose Raymundo will leave on the steamship *Nuestra Señora de Alba* on November 4, 1924, to report to the supervising surgeon of the Zamboanga General Hospital to take a refresher course for a month, after which time he will return to his former station at Butuan, Agusan.

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[1] Broadcasted at Radio Station KZKZ on November 15, 1924 at 8 p. m.

HEALTH CONFERENCE IN BULACAN POSTPONED

The health officers' conference in Bulacan to be held in Malolos has been postponed to November 15 instead of November 8, 1924. Dr. Jacobo Fajardo, chief of the Divison of Provincial Sanitation, will probably represent the Director of Health in that conference.

DOCTOR LARA REPORTS

Dr. Casimiro Lara, chief physician of the Culion Leper Colony, who is now in America as pensionado of the Mayo Foundation, reports that he is now doing blood chemistry work in the laboratory of the Medical Department. In this work he will familiarize himself with some of the newer functional tests that have been introduced very recently in connection with diagnosis and prognosis in liver disease.

Doctor Lara submitted a plan of study to the authorities of the Mayo Foundation, which he intends to carry out, the purpose of which is to make observations of the Physio-pathological changes induced by the administration of chaulmoogra oil and the "ethyl esters." This plan has been approved and the materials for experimental work have already been requisitioned.

DOCTOR BANTUG HAS RETURNED

Dr. Jose P. Bantug, Acting Executive Officer of the Philippine Health Service, has returned to his desk after a week's vacation.

SANITATION OF MANILA

The following items have been recommended to the Office of the Mayor, City of Manila:

1 To establish fountains in Luneta, Sunken Garden, Mehan Garden, Osmeña Grounds, etc.

2. To furnish the Fly, Mosquito, and Rat Extermination Brigade with all the necessary materials to disinfect all canals, drainage, and all mosquito-breeding places.

3. To give sufficient fund to improve the public midden sheds.

4. To give sufficient fund to clean and dredge the city canals.

5. To give sufficient fund for the construction of one or more crematories.

6. To give sufficient fund for the construction of pasteurizing plant.

7. To give sufficient fund for the filling of low lands in the city.

The authorities of the City of Manila have set aside the amount of ₱1,779,550 for the items above-specified.

GOVERNMENT PENSIONADOS

There is a total of 12 Government pensionados sent by the Philippine Health Service from 1919 to the present time to the United States to specialize in different branches of public health as follows:

1919—3; 1920—3; 1921—none; 1922—2; 1923—2; and 1924—2.

All have now returned to the Philippines except two. Two have been pensionados of the Rockefeller Foundation and one of the Mayo Foundation.

The rest were Philippine Government pensionados.

A total of four Government pensionados have specialized in vital statistics, demography, and epidemiology; two in general public-health work; one is taking this last course at present; one has specialized in laboratory work, manufacture of sera and vaccine; one, in advanced sanitary engineering; one, in hospital administration; and one is taking a course as medical internist.

They have stayed in America from one to two years. Three have obtained the certificate of public health and two the degree of doctor of public health.

SANITARY CONDITIONS OF CEBU

In a letter of the district health officer of Cebu, he states that the sanitary conditions of the City of Cebu are very satisfactory. The death rate is gradually decreasing year by year. There were no epidemics from 1921–1923. The infant mortality has also decreased.

A treatment of carbon tetrachloride for hookworm and other intestinal parasites is carried out in the Province of Cebu under the auspices of the Philippine Health Service and, during 1923, a total of 13,336 patients were treated.

Fifty-two public dispensaries are in operation under the health service, 12 of which are first class; 4, second class; and the rest, third class.

A leper detention camp is also in operation in which positive lepers are subject to treatment.

Systematic inoculations against communicable diseases, such as cholera, smallpox, typhoid, rabies, etc., are given free.

The towns and barrios are supplied with potable water and proper disposal of waste.

DISTRIBUTION OF VACCINES AND SERA

Dr. Bonifacio Mencias, acting chief, Office of Property of the Philippine Health Service, Manila, reports that for the month of October, 1924, vaccines and sera have been distributed in Manila and the provinces as follows: Antidiphtheritic serum, 440,000 units; antitetanic serum, 1,070 units; antidysenteric serum, 20 ampules; normal horse serum, 3 ampules; gonococcus vaccines, 170 ampules; cholera vaccine, 10,620 c. c.; mixed cholera-typhoid vaccine, 84,870 c. c.; typhoid vaccine, 840 c. c.; fresh vaccine virus, 175,100 units; and dried vaccine virus, 38,600 units. These cost ₱4,893.

DOCTOR GUIDOTE ARRIVED

Dr. Jose Guidote, pensionado of the Philippine Health Service, returned on the steamship *Empress of Canada* on November 1, 1924. He obtained certificate of public health in the Johns Hopkins University.

DOCTOR LAYGO WILL LEAVE FOR INSPECTION

District Inspector Pacifico Laygo has been directed to undertake a tour of inspection in the Ilocano provinces, Central provinces, and Visayas. Surveys of the public-health administration in the foregoing provinces shall be made.

REPORT OF SANITARY ENGINEERING

Mr. Manuel Mañosa, chief of Sanitary Engineering of the Philippine Health Service, reports that for October, 1924, a total of 95 strong material plans and 109 permits for minor building construction and 40 for light and mixed material construction were approved. Fifty-seven permits were disapproved.

YAWS CLINIC IN JOLO

Medical Inspector Julian Pilares, district health officer of Jolo and Sulu, reports that for the month of September, 1924, a total of 1,106 persons suffering from yaws received neosalvarsan treatment.

Doctor Pilares states that there are many recoveries and improvements after the first injections. The people have confidence in the effectiveness of this treatment.

Besides this yaws clinic, Doctor Pilares also reports that a total of 5,474 persons attended the dispensaries of the different municipalities, and 8,075 treatments were made.

The Sulu Public Hospital admitted 61 patients during the month.

MALARIA CAMPAIGN IN PAMPANGA

Sanitary Engineer Jerome J. Mieldazis, of the Rockefeller Foundation, who has taken the place of Sanitary Engineer W. D. Tiedeman, working on malaria control in coöperation of the Philippine Health Service reports that investigations at Camp Stotsenburg, Porac, Floridablanca, and Carmencita, shows that the stream breeders are beginning to appear.

Results at Floridablanca are encouraging, very few anopheles larvæ have been found in the streams. Mr. Mieldazis hopes to show any decrease due to the control measures undertaken.

NEGATIVE LEPERS FROM CULION

The steamsip *Basilan* has brought from the Culion Leper Colony on November 11, 1924, nine negative lepers to San Lazaro Hospital. There will be some other negatives that will soon be disposed of from the Colony.

REPORT OF DOCTOR AVELLANA-BASA

Senior Medical Inspector Jose Avellana-Basa, chief, Culion Leper Colony, reports that for the month of September, 1924, a total of 5,428 lepers were isolated in the colony, of whom 4 are Americans; 1, European; 13, Chamorros; 17, Chinese; 1, Japanese; and 5,393, Filipinos.

There are 2,700 men, 1,386 women, 841 boys, and 501 girls. Of these, 1,300 are single, 1,486 married, 300 widowed, and 1,342 children.

SANITATION OF THE IWAHIG PENAL COLONY

Dr. A. H. Aberin, resident physician of the Iwahig Penal Colony, reports that for the month of October, 1924, the sanitation of the colony has been satisfactory.

The colony is provided with good drainage system, lighting, ventilation, and septic vaults of sewage disposal and pail system.

The premises are sanitary. The garbage is placed in tightly covered receptacles, which is daily disposed of and buried in the ground.

The low places are being filled up to avoid mosquito-breading places. All breeding places for flies are disinfected.

The Colony is supplied with adequate water supply. This water is bolied before drinking. The inmates are given well-balanced diets. The actual daily subsistence is ₱0.15 per capita.

The inmates have plenty of amusements, recreations, and exercises.

A total of 561 prescriptions were filled. A total of 433 treatments, 4 major operations, and 911 dressings were done.

NEW ASSIGNMENTS

Dr. Juan Crisologo, resident physician of Puerto Princesa Hospital, who is in Manila, has been directed to proceed to Bayombong, Nueva Vizcaya, and report to the district health officer for duty as resident physician of the Bayombong Hospital.

Senior Surgeon Hilario Lara has been detailed to secure subscriptions for the Philippine Chapter of the American Red Cross from the officers and employees of the Philippine Health Service.

Senior Surgeon Dr. Severina Luno-Orosa and Chief Supervising Nurse Mrs. Carmen R. Leogardo, of the Public Health Nursing Service, have been detailed as representatives of this Service to the public conference to be held in the grounds of the Yangco Primary School on November 16, 1924.

Dr. Bartolome R. Reyes, provincial dentist of Bulacan, has been directed to proceed to Manila and to report to the acting chief, Division of Hospitals, P. H. S., in connection with the revision of the list of dental equipments and supplies.

District Inspector Gabriel Intengan has been directed to Rizal and Tayabas to conduct certain investigations.

HEALTH REPORT OF ZAMBOANGA

Medical Inspector Eusebio Aguilar, district health officer of Zamboanga and Supervising Surgeon of the Zamboanga General Hospital, reports that during the month of September, the yaws campaign was continued in Margosatubig, Diuas, Kumalarang, and Kabasalan.

A total of 995 mixed cholera and typhoid vaccinations were performed in the City of Zamboanga and in the barrios of Bolong, Manicahan, Cabaluay, Tetuan, Mercedes, Boalan, Putig, Ayala, Recodo, Talisayan, Tumaga, and Maasin. A total of 1,236 vaccinations was done in Zamboanga, Isabela de Basilan, Dapitan, Dipolog, and Lubungan with a total of 751 inspections.

Hookworm campaign is being carried out in Dapitan, Dipolog, and Zamboanga, and in the municipal district of Margosatubig. All positive for hookworm were given carbon tetrachloride. A total of 43 Japanese and Chinese immigrants arriving at Zamboanga were examined for intestinal parasites, 3 of whom had hookworm.

PROFESSOR SPAETH IN MANILA

Dr. R. A. Spaeth, assistant professor on Industrial Hygiene of the School of Hygiene and Public Health of Johns Hopkins University, has come to Manila on the steamship *President Adams* on his way to Siam, where he will assume the position as head of the Department of Physiology of the new government Medical School at Bangkok.

He has visited the Bureau of Science, several health stations of the City, the Manila Water Reservoir at San Juan del Monte, the San Lazaro Hospital, and some other important points.

Doctor Spaeth was given a well-appointed dinner by the former graduates of the School of Hygiene and Public Health of the Johns Hopkins University, who are in Manila, at Manila Hotel on November 14, 1924. Those present were Drs. Rufino Abriol, Eugenio Hernando, Leoncio Lopez-Rizal, Jose Guidote, Regino Padua, and Hilario Lara.

Doctor Spaeth left for Siam on the afternoon of November 14, 1924.

CAN LEPROSY BE CURED?

The United Sates Public Health Service says:

"Few people in this counrty (U. S.) other than physician ever see a case of leprosy although it is estimated that between five hundred and one thousand lepers are still at large in the United States. Except the disease be in its last stages the average person would never recognize it. Lepers have been known to live in communities for years before being recognized as such. Often these persons are discovered to be lepers when applying for treatment of some other condition.

"Recently three lepers have been discharged from the National Leprosarium at Carville, Louisiana as having now no manifestations of the disease. To all intents and purposes, they have been cured although the doctors merely certify that the disease has been arrested and that these persons are no longer a menace to the public health.

"The treatment at Carville, while by no means wholly confined to the use of special preparations of chaulmoogra oil, depends very materially on these preparations for its efficacy, or in other words, their use is regarded as an important adjunct of the treatment.

"The accommodations for lepers at Carville have never been sufficient to take care of all the lepers who apply. At present there are 211 beds, all of which are filled, but there will soon be facilities to care for a total of 415 lepers and it is believed that the new buildings will be rapidly filled as there is a large waiting list.

"The timely provision for the isolation and treatment of these unfortunate victims of this terrible disease will, no doubt, diminish the spread of leprosy in the United States, a matter that is already giving great concern to both National and State health officers."

TROPICAL ULCERS IN PILAR, SORSOGON

Medical Inspector Jose Vidal, district health officer of Sorsogon, reports that during his inspection on October 29, 1924, he found 29 cases of tropical ulcers among 150 pupils in the Central Elementary School of the municipality of Pilar, Sorsogon.

A complete survey of this disease is now being undertaken in this locality in order to ascertain the total number of cases of tropical ulcers, and then proper medical treatment will be instituted.

TRACHOMA IN NUEVA ECIJA

Surgeon Toribio Joson, district health officer of Nueva Ecija, reports that a total of 180 cases of trachoma were found among school children in the municipalities of Nueva Ecija as follows: San Antonio, 46; Cabiao, 46; San Isidro, 36; Cuyapo, 32; San Jose, 9; Guimba, 4; Licab, 4; and Aliaga, 3.

Doctor Joson reports that a total of 109 cases have already been cured, and 71 are still under treatment.

NEW ASSIGNMENTS

Dr. Fernando Zamora has been designated as acting district health officer of the twenty-fourth Health District, Province of Camarines Norte, in addition to his other duties as president of the first Sanitary Division of the district until the regular incumbent returns to duty.

Chief, Office of General Inspection, Rafael Villafranca, and Senior Surgeon Hilario Lara have been assigned to attend the meeting of the Union de Tabaqueros that was held at the Flor de Isabela Factory on November 19, 1924. These health officers explained matters relating to public health.

Dr. Severina Luna-Orosa will give a health conference in the grounds of the Yangco Primary School on November 23, 1924, at 5 p. m. at the invitation of the Yangco Welfare Association. .

NURSE WANTED

A public-health female nurse is wanted to fill the vacancy in Tayabas at a salary of ₱1,080 a year. One who speaks Tagalog is preferable. Anyone who desires to apply for the position shall please see the Acting Executive Officers of the Philippine Health Service, Santa Potenciana Building, Intramuros.

MEDICAL RESERVE CORPS

The following officers of the Philippine Health Service have been called for active duty at Fort Wm. McKinley beginning November 28 to December 12, 1924: Captain Regino Padua, first Lieutenant Bienvenido Caro, first Lieutenant Tirso Coronel, first Lieutenant Luis Delgado, first Lieutenant Froilan Eubanas, first Lieutenant Leopoldo Pardo, first Lieutenant Antonio Pasco, first Lieutenant Rafael Perez, and first Lieutenant Felino Simpao.

HEALTHMOBILE TO BE EXHIBITED

Effective the dates and at the places below indicated mechanic Teodoro Garcia, chauffeur Eliseo Reyes, and Assistant Sanitary Inspectors Doroteo Mendoza and Benigno Reyes have been directed to give healthmobile performances and lectures on public health:

December 6th	Tangos, Navotas.
December 13th	Pangholo, Malabon.
December 20th	Tinaheros, Malabon.

For the locality wherein the exhibitions and lectures shall take place, Mrs. Elisa S. Cayco, supervising teacher, District of Maabonl, shall be consulted, and the local health officer shall be applied for the direction and supervision of performances.

CHIEF CULION LEPER COLONY REPORTS

Dr. Jose Avellana-Basa, chief, Culion Leper Colony, reports that for the month of October, 1924, a total of 5,404 inmates have been isolated in the colony, of whom 4 are Americans; 1, European; 13, Chamorros; 16, Chinese; 1, Japanese; and 5,369, Filipinos.

There are 2,685 men, 1,376 women, 842 boys, and 501 girls. Of this total, 1,292 are single, 2,476 married, 293 widowed, and 1,343 children.

CORRECTIONS OF NEWSPAPER PUBLICATIONS

The "El Debate," in its issue on November 23, 1924, has published tropical ulcers in Manila and the provinces. The Health Service desires to state here that no case of tropical ulcers is found in Manila, altho in the last report received from Sorsogon, 29 cases of this skin disease were found among school-children in Pilar of the same province.

DOCTOR VILLAFRANCA RETURNED FROM INSPECTION

Dr. Rafael Villafranca, chief, Office of General Inspection, returned from an inspection trip to the Province of Nueva Ecija. The municipalities of

Gapan, San Isidro, Santa Rosa, Muños, San Antonio, Talavera, Santo Domingo, San Jose, Guimba, and Cuyapo were covered by this trip.

Several cases of trachoma among school children were found in San Antonio, San Isidro, Cuyapo, and Guimba.

NURSES LEOGARDO AND MONTES RETURNED FROM INSPECTION

Chief Supervising Nurse Mrs. Carmen R. Leogardo and Nurse Fortunata Montes returned from an inspection trip in the Provinces of Laguna, Batangas, Cavite, and Rizal.

POLICY OF THE NEW DIRECTOR OF HEALTH

Before an assemblage of the officers of the Service, including Chiefs of Divisions and Offices and the entire sanitary personnel of the City of Manila, the new Director of Health on November 25, 1920 upon assuming his duties spoke in no uncertain terms on the policies to be followed during his term of administration.

He emphasized the fact that as a semi-military organization, dicipline must above all costs be maintained and that the principle of justice and equity shall be followed even at the expense of personal interests. He has, therefore, announced that he will try to be just in his dealing with the officers as well as with the subordinate personnel, but shall require of all strict compliance with their duties. Complaints coming from the public against unjust acts of the sanitary personnel as well as alleged bribes imputed to certain members of the sanitary personnel, will be dealt with severely, and, in conformity with civil service rules, they shall be ousted from office. Above all, he has enjoined to every one concerned, a uniform courtesy toward the public and hope that, from now on, the people will have no motive to complain against the actuation of the sanitary personnel.

PROMOTION IN THE HEALTH SERVICE

The Philippine Health Service having been given by the present statutes the character of a semi-military organization, the use of uniform will be required of all the officers and men of the Service entitled to wear such uniforms. The men in the lower ranks will be expected to render the customary military salute to their superior officers, in the way prescribed by the existing regulations of the Service. The uniform shall be worn with propriety and dignity with the reformed Service buttons and insignias.

Promotions will be governed chiefly by the efficiency records of each individual, and seniority, while it will be regarded as a merit in favor of the appointee, will not be the deciding factor in making appointments and promotions. Strict discipline and devotion to duty will be the watchword of the present administration, as announced by the Director on assuming the duties of his new office.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of November, 1924)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924 [1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

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[1] Estimated on the basis of last figures published by the Census office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

NOVEMBER, 1924

Date	Pressure [1] mean	Temperature						
		In shade [2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a.m. mean	2 p.m. mean
	mm.	°*C.*	°*C.*		°*C.*		°*C.*	°*C.*
1-10	759.27	26.0	32.4	6	22.2	4,6	28.8	29.0
11-20	59.80	25.0	31.2	14	21.8	17	28.4	28.5
21-30	58.23	24.4	31.9	21	17.7	25	27.6	27.7

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	85.7	89.6	5	76.3	10
11-20	87.6	95.6	18	83.4	13
21-30	84.0	91.7	27	73.1	25

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[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	E quad	1,129.5	150.5	10	23.1	3.9	6
11-20	NE	885.0	163.5	17	16.0	2.8	13
21-30	NE quad	1,747.0	374.0	30	24.6	4.1	24, 25

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	38—00	6—50	6	160.8	8
11-20	15—00	4—15	19	62.5	5
21-30	26—45	6—40	21	82.6	6

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[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	8	6	14	54.39
Filipinos	550	514	1,064	45.98
Spaniards	3	3	6	37.36
Other Europeans	4	2	6	64.87
Chinese	16	18	34	23.18
All others	4	4	8	44.56
Total and average	585	547	1,132	44.74

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	130	112	242	4	7	11	253	81.33
No. 2, Meisic	97	69	166	11	7	18	184	21.23
No. 4, Sampaloc	93	90	183	1	4	5	188	45.79
No. 5, Tondo	164	181	345	6	12	18	363	54.12
No. 6, Paco	72	60	132	7	5	12	144	53.16
Total	556	512	1,068	29	35	64	1,132	44.74

Number of births attended by physicians, living, 275; Stillbirths, 21.
Number of births attended by midwife, living, 129; Stillbirths, 3.
Number of births attended by family, living, 728; Stillbirths, 18.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans		2	2	7.77
Filipinos	325	252	577	24.93
Spaniards		2	2	12.45
Other Europeans	1		1	10.81
Chinese	22	2	24	16.36
All others	1		1	5.57
Total and average	349	258	607	23.99

TOTAL DEATHS BY SOCIAL CONDITION INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	116	84
Divorced		
Widowed	34	41
Single	254	163
Condition not stated		
Total	404	288
Grand total	692	

Stillbirths	42
Number of deaths with medical attendance	340
Number of deaths without medical attendance	352

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	36	31		2	69
30 days to under 1 year	80	43	12	9	144
1 year to under 2 years	29	24	6	2	61
2 years to 4 years	25	20	2	2	49
5 years to 9 years	4	8	2	1	15
10 years to 14 years	7	3			10
15 years to 19 years	12	15	1	1	29
20 years to 29 years	32	19	10	4	65
30 years to 39 years	26	28	5	3	62
40 years to 49 years	26	17	8	2	53
50 years to 59 years	30	15	4	1	50
60 years to 69 years	21	11	3	1	36
70 years to 79 years	8	8	1		17
80 years to 89 years	11	11			22
90 years to 99 years	2	5	1	1	9
100 years and over					
Age not stated					
Total	349	258	55	29	691

One (1) female Filipino of 54 years, permanent residence unknown not included in the above table.

DEATHS AND DEATH RATE PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	120	38.58
No. 2, Meisic	99	11.42
No. 4, Sampaloc	101	24.60
No. 5, Tondo	292	43.53
No. 6, Paco	80	29.53
Total and average	692	27.35

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			4	9					1		1		15
4. Malaria			1										1
10. Influenza			6										6
14. Dysentery			2	4									6
17. Leprosy			3	2									5
18. Erysipelas			1										1
20. Purulent infection and septichaemia			5			1							6
22. Anthrax			1										1
24. Tetanus			3	7									10
27. Beriberi									1				1
27a. Beriberi, infantile			35	15									50
28. Tuberculosis of the lungs			73	47					4				124
29. Acute miliary tuberculosis				1					1				2
30. Tuberculous meningitis			5	1					2				8
31. Abdominal tuberculosis				4									4
35. Disseminated tuberculosis				1									1
37. Syphilis			1										1
38. Gonococcus infection				1									1
40. Cancer and other malignant tumors of the stomach, liver			1	1					1				3
47. Acute articular rheumatism			1										1
48. Chronic rheumatism and gout			1										1
50. Diabetes				1									1
54. Anaemia, chlorosis			1	1									2
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			14	8									22
(2) Cerebro-spinal meningitis (undefined)			2	1									3
(3) Cerebro-spinal fever			1										1
64. Cerebral hæmorrhage, apoplexy			2	3									5
66. Paralysis without specified cause			1	2									3
68. Other forms of mental alienation			6	2									8
69. Epilepsy			1										1

III. Diseases of the circulatory system							
78. Acute indocarditis		1	1		1		3
79. Organic diseases of the heart		4	5		2		11
80. Angina pectoris		2	1				3
85. Haemorrhage; other diseases of the circulatory system		1					1
IV. Diseases of the respiratory system							
87. Diseases of the larynx		1					1
89. Acute bronchitis		24	18		1		43
90. Chronic bronchitis		6	12				18
91. Broncho-pneumonia	1	30	17		1	1	50
92. Pneumonia		4					4
93. Pleurisy		1					1
94. Pulmonary congestion, pulmonary apoplexy			1				1
96. Asthma		1	1				2
V. Diseases of the digestive system							
102. Ulcer of the stomach		2	1				3
104. Diarrhœa and enteritis (under 2 years)		9	6				15
105. Diarrhœa and enteritis (2 years and over)		4	7		1		12
108. Appendicitis and typhlitis					1		1
109. Hernias, intestinal obstructions		1	1			1	3
110. Other diseases of the intestines			1				1
111. Acute yellow astrophy of the liver		1					1
113. Cirrhosis of the liver		1					1
117. Simple peritonitis (nonpuerperal)			2				2
118. Other diseases of the degestive system (cancer and tuberculosis excepted)			1				1
VI. Nonvenereal diseases of the genito-urinary system and annexa							
119. Acute nephritis		3	3		1		7
120. Bright's disease		9	8		3		20
122. Other diseases of the kidneys and annexa		1					1
123. Calculi of the urinary passages			1				1
129. Uterine tumor (noncancerous)			1				1
130. Other diseases of the uterus			1				1
132. Salpingitis and other diseases of the female genital organs				1			1
VII. The puerperal state							
135. Puerperal hæmorrhage			3				3
136. Other accidents of labor			1				1
137. Puerperal septichaemia			4				4
138. Puerperal albuminuria and convulsions			1				1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			1										1
143. Furuncle				1									1
144. Acute abscess				1									1
145. Other diseases of the skin and annexa			1										1
IX. Diseases of the bones and of the organs of locomotion													
146. Diseases of the bones (tuberculosis excepted)				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			1	2									3
(2) Congenital debility		1	24	18									43
152. Other diseases peculiar to early infacy:													
(2) Other causes peculiar to early infancy				1									1
XII. Old age													
154. Senility			11	15									26
XIII. Affections caused by external causes													
155. Suicide by poison			1										1
169. Accidental drowning			3						1				4
174. Traumatism by machines			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1										1
181. Electricity (lightning excepted)			1										1
186. Other external violence			1										1
XIV. Ill-defined diseases													
189. Causes of death not specified or ill-defined			2	4			1						7
Total		2	325	252		2	1		22	2	1		607
Grand total	2		577		2		1		24		1		607

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			2	1									3
4. Malaria			1										1
5. Smallpox									1				1
17. Leprosy			2										2
24. Tetanus				2									2
27. Beriberi				1									1
27a. Beriberi, infantile			1	5									6
28. Tuberculosis of the lungs			5	1									6
30. Tuberculous meningitis									1				1
34. Tuberculosis of other organs			1										1
40. Cancer and other malignant tumors of the stomach, liver			1										1
41. Cancer and other malignant tumors of the peritonaeum, intestines, rectum				2									2
45. Cancer and other malignant tumors of other organs or of organs not specified			1										1
II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			5	1									6
(2) Cerebro-spinal meningitis (undefined)			1										1
63. Other diseases of the spinal cord									1				1
68. Other forms of mental alienation			2										2
III. Diseases of the circulatory system													
78. Acute endocarditis	1		1										2
79. Organic diseases of the heart	1		2	1									4
IV. Diseases of the respiratory system													
89. Acute bronchitis			3	1					1				5
90. Chronic bronchitis				1									1
91. Broncho-pneumonia			4	4	1								9
92. Pneumonia			2										2
93. Pleurisy			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system													
104. Diarrhœa and enteritis (under 2 years)			3										3
109. Hernias, intestinal obstructions		1	1										2
115. Other diseases of the liver	1		1										2
VI. Nonvenereal diseases of the genito-urinary system and annexa													
120. Bright's disease			3	3									6
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				1									1
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(2) Congenital debility				2									2
XII. Old age													
154. Senility				1									1
XIII. Affections caused by external causes													
169. Accidental drowning			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2										2
Total	3	1	47	28	1				4				84
Grand total	4		75		1				4				84

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
4. Malaria					1	1
10. Influenza					3	3
18. Erysipelas					1	1
24. Tetanus				7	2	9
27a. Beriberi, infantile	1			6	49	56
30. Tuberculous meningitis					1	1
37. Syphilis	1					1
61. Simple meningitis:						
(1) Simple meningitis					8	8
(2) Cerebro-spinal meningitis (undefined)					2	2
85. Haemorrhage; other diseases of the circulatory system				1		1
87. Diseaseases of the larynx				1		1
89. Acute bronchitis					41	41
90. Chronic bronchitis					6	6
91. Broncho-pneumonia					16	16
92. Pneumonia					1	1
104. Diarrhœa and enteritis					9	9
109. Hernias, intestinal obstructions					1	1
110. Other diseases of the intestines				1		1
111. Acute yellow atrophy of the liver					1	1
119. Acute nephritis					1	1
142. Gangrene					1	1
151. Congenital debility, icterus, and sclerema:						
(1) Premature births (not stillborn)	3					3
(2) Congenital debility	11	3	1	20	10	45
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy				1		1
189. Causes of death not specified or ill defined				1	1	2
Total	16	3	1	38	155	213

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,367
Number of rats caught by spring traps	2,898
Number of cage wire traps set	720
Number of rats caught by cage wire traps	4
Number and kind of baits (coconuts)	21,087
Number of poison portions placed	14,551
Number of rats found poisoned	414
Number of rats killed by clubs and other weapons	591
Number of rats found dead from other causes	552
Total number of rats otherwise caught, found dead, or killed	4,459
Total number of rats sent to the laboratory for examination	4,459
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF NOVEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	3		14	4	14		8	2	2		5	2	46	8
Female	1		2	5	6	1	4		2	1	3	1	18	8
Home:														
Male														
Female							2	2	1				3	2
Total:														
Male	3		14	4	14		8	2	2		5	2	46	8
Female	1		2	5	6	1	6	2	3	1	3	1	21	10
Grand total	4		16	9	20	1	14	4	5	1	8	3	67	18

REMARKS:

Total cases reported within the month in the City of Manila		74
Resident cases	64	
Non-resident cases	10	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		18
Deaths among resident cases	15	
Deaths among non-resident cases	3	
Deaths among foreign cases	0	
Total cases confirmed as Typhoid Fever		64
By autopsy	2	
By blood culture	22	
By widal reaction	1	
By urine examination	0	
By feces examination	0	
By clinical symptoms	39	
Total cases confirmed as Paratyphoid Fever		3
Cases not confirmed		7

Typhoid Carrier—1

DYSENTERIES REPORTED DURING THE MONTH OF NOVEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male			1		1		3	1			1		6	1
Female	2	1	1	1	2		2		1	1	1		9	3
Home:														
Male							1	1					1	1
Female					2	1							2	1
Total:														
Male			1		1		4	2			1		7	2
Female	2	1	1	1	4	1	2		1	1	1		11	4
Grand total	2	1	2	1	5	1	6	2	1	1	2		18	6

REMARKS:

Total cases reported within the month in the City of Manila		19
Resident cases	17	
Non-resident cases	2	
Total deaths reported within the month in the City of Manila		6
Deaths among resident cases	6	
Deaths among non-resident cases	0	
Cases not confirmed as dysentery		1

Dysentery Carrier—None

CHOLERA REPORTED DURING THE MONTH OF NOVEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male														
Female														
Home:														
Male														
Female														
Total:														
Male														
Female														
Grand total														

REMARKS:

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	0	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among resident cases not confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	

Cholera Carrier—12

DIPHTHERIA REPORTED DURING THE MONTH OF NOVEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:			2								1		3	
Male														
Female														
Home:														
Male														
Female														
Total:			2								1		3	
Male														
Female														
Grand total			2								1		3	

REMARKS:

Total cases reported within the month in the City of Manila		10
Resident cases	7	
Non-resident cases	3	
Resident cases not confirmed as diphtheria	5	
Non-resident cases not confirmed as diphtheria	2	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as diphtheria	0	
Deaths among non-resident cases confirmed as diphtheria	0	

Diphtheria Carriers—5

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	9	1	1	
Varioloid				
Varicella				
Smallpox				
Measles		3		
Whooping cough				
Influenza	23	4	6	
Bubonic plague				
Beriberi, adult	1		1	
Beriberi, infantile	35	15	35	15
Pulmonary tuberculosis	134	101	78	48
Tuberculosis of all forms	7	6	7	6
Encephalitis lethargica				

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	3		1	
Varioloid				
Varicella	1			
Smallpox	1		1	
Measles	1			
Whooping cough				
Influenza	2	1		
Bubonic plague				
Beriberi, adult		1		1
Beriberi, infantile	1	5	1	5
Pulmonary tuberculosis	17	8	5	1
Tuberculosis of all forms	2		2	
Encephalitis lethargica				

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF NOVEMBER, 1924

Sera and vaccines	On hand November 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	900,000		900,000	200,000	700,000
Anti-dysenteric serum (ampoules)	125		125	50	75
Anti-tetanic serum (units)		560,000	560,000	160,000	400,000
Cholera vaccine (c. c.)	800	9,000	9,800	4,800	5,000
Dried vaccine virus (units)	1,800	40,000	41,800	39,100	2,700
Fresh vaccine virus (units)	86,400	214,000	300,400	208,300	92,100
Gonococcus vaccine (ampoules)		95	95	95	
Mixed cholera-typhoid vaccine (c. c.)	16,300	56,540	72,840	63,960	8,880
Normal horse serum (ampoules)		25	25	25	
Typhoid vaccine (c. c.)	4,980		4,980	2,220	2,760

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1924

Health Districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
No. 1, Intramuros	1,199	131	850	218
No. 2, Meisic	3,029	197	2,681	151
No. 4, Sampaloc	1,546	233	1,168	145
No. 5, Tondo	954	339	552	63
No. 6, Paco	494	128	337	29
Total	7,222	1,028	5,588	606

Health Districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	108	35	......	......	......	......	108	35
No. 2, Meisic	151	44	23	30	373	500	547	574
No. 4, Sampaloc	168	65	31	25	185	34	384	124
No. 5, Tondo	208	48	83	20	4	......	295	68
No. 6, Paco	92	21	12	13	......	......	104	34
Total	727	213	149	88	562	534	1,438	835

Vaccine virus:

Received	12,500
Used	9,600
Remained	2,900

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF NOVEMBER, 1924

(See "Consolidated table of Mixed Vaccinations in the City of Manila.")

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF NOVEMBER, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros					2						4						6	
No. 2, Meisic						6						30						36
No. 4, Sampaloc					7						22						29	
No. 5, Tondo					6						9						15	
No. 6, Paco					12						4	1					16	1
Division of Communicable Diseases					1,347	3,587					872	1,693					2,219	5,280
Total					1,374	3,593					911	1,724					2,285	5,317

NOTE.—V, in persons never vaccinated before; R, revaccinations.
For first and second injections see Table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF NOVEMBER, 1924

Health Districts	Number of injections made in—												Total number injected					
	Males						Females											
	First injections		Second injections		Third injections [1]		First injections		Second injections		Third injections [1]		First		Second		Third [1]	
	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1, Intramuros	3	6	2	1			4	3	1				7	9	3	1		
No. 2, Meisic		4		5				2		13				6		18		
No. 4, Sampaloc	16		13				31		28				47		41			
No. 5, Tondo	25		19				10		8				35		27			
No. 6, Paco	13		14				5	1	2				18	1	16			
Division of Communicable Diseases	1,816	4,531	1,509	3,912			1,236	2,442	1,011	1,933			3,052	6,973	2,520	5,845		
Total	1,873	4,541	1,557	3,918			1,286	2,448	1,050	1,946			3,159	6,989	2,607	5,864		

NOTE.—V, in persons never vaccinated before; R, revaccinations.

[1] Typhoid vaccine has been used in the third injections.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	11,511	1,977	6,318	3,216
Agusan	6,028	1,466	2,087	2,475
Albay	91,478	16,102	46,929	28,447
Antique	18,384	8,783	4,811	4,790
Bataan	9,804	1,171	5,105	3,528
Batanes	3,180	405	1,212	1,563
Batangas	85,898	14,484	49,705	21,709
Bohol	156,187	27,904	77,304	50,979
Bukidnon	4,394	620	2,083	1,691
Bulacan	30,568	9,374	11,065	10,129
Camarines Norte	6,317	2,712	1,885	1,720
Camarines Sur	32,799	6,708	14,901	11,190
Capiz	33,561	13,151	9,333	11,077
Cagayan	32,115	9,972	10,507	11,636
Catanduanes	10,458	3,849	1,657	4,952
Cavite	31,592	8,795	8,295	14,502
Cebu	92,389	31,496	21,729	39,164
Cotabato	13,277	4,120	3,350	5,807
Culion Leper Colony	503	49	402	52
Davao	5,804	2,486	1,615	1,703
Ilocos Norte	66,731	10,330	36,347	20,054
Ilocos Sur	33,662	5,840	16,474	11,348
Iloilo	71,721	27,471	23,903	20,347
Isabela	15,532	3,328	7,813	4,391
Laguna	34,026	7,324	12,734	13,968
Lanao	8,031	1,035	5,158	1,838
La Union	62,105	10,564	36,758	14,783
Leyte	53,993	16,871	18,979	18,143
Marinduque	9,660	2,005	4,366	3,289
Masbate	10,874	3,601	3,454	3,819
Mindoro	6,719	1,683	2,817	2,219
Misamis	21,211	6,000	7,044	8,167
Mountain Province	27,145	7,971	11,406	7,768
Nueva Ecija	28,312	7,512	8,947	11,853
Nueva Vizcaya	9,260	1,281	4,449	3,530
Occidental Negros	48,388	23,695	11,377	13,316
Oriental Negros	32,847	6,408	14,055	12,384
Palawan	5,567	1,862	2,474	1,231
Pampanga	131,382	21,118	104,115	6,149
Pangasinan	82,763	26,322	17,337	39,094
Rizal	36,522	7,894	18,639	9,989
Romblon	10,228	2,780	2,738	4,710
Samar	112,130	22,533	69,014	20,583
Sorsogon	17,761	5,847	6,168	5,746
Sulu	11,539	5,134	2,955	3,450
Surigao	6,802	2,370	2,433	1,999
Tarlac	23,501	4,199	13,166	6,136
Tayabas	37,385	10,840	14,779	11,766
Zambales	8,159	1,548	4,179	2,432
Zamboanga	29,846	10,827	14,128	4,891
Total	1,730,049	431,827	778,499	519,723

[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	702	184	1,756	1,041	2,784	4,209	5,242	5,434
Agusan	163	113	310	312	478	635	951	1,060
Albay	5,575	1,919	8,612	4,390	26,127	15,539	40,314	21,848
Antique	2,023	423	4,669	1,490	3,908	2,494	10,600	4,407
Bataan	791	211	1,858	1,326	2,822	2,662	5,471	4,199
Batanes	278	78	407	185	1,255	632	1,940	895
Batangas	4,852	1,060	8,194	1,971	18,538	13,628	31,584	16,659
Bohol	4.938	852	17,194	4,376	57,556	34,065	79,688	39,293
Bukidnon	27	18	183	265	592	1,101	802	1,384
Bulacan	3,831	509	6,420	1,963	6,671	4,161	16,922	6,633
Camarines Norte	700	150	1,454	473	1,980	1,040	4,134	1,663
Camarines Sur	2,398	984	5,395	2,760	10,053	6,553	17,846	10,297
Capiz	2,523	573	5,858	2,018	9,929	6,569	18,310	9,160
Cagayan	3,857	587	7,474	1,768	9,758	5,148	21,089	7.503
Catanduanes	1,731	463	1,940	846	1,306	1,038	4,977	2,347
Cavite	4,229	585	6,426	1,454	12,820	5,661	23,475	7,700
Cebu	9,375	5,587	14,444	5,479	12,112	10,999	35,931	22,065
Cotabato	161	206	742	1,074	1.666	3,400	2,569	4,680
Leper Culion Colony	12	2	18	11	181	102	211	115
Davao	279	132	593	406	2,089	1.771	2,961	2,309
Ilocos Norte	2,890	531	7,984	2,134	20,938	21,901	31,812	24,566
Ilocos Sur	1,617	227	4,856	1,586	10,572	8,417	17,045	10,230
Iloilo	8,282	1,247	15,926	3,132	19,144	10,867	43,352	15,246
Isabela	273	263	1,575	1,510	2,690	3,043	4,538	4,816
Laguna	1,994	528	4,343	1,665	8,828	12,740	15,165	14,933
Lanao	297	42	1,003	208	1,877	1,254	3,177	1,504
La Union	2.508	519	7,054	2,750	14,321	12,262	23,883	15,531
Leyte	2.872	1,402	8,661	3.517	7,572	5,296	19,105	10,215
Marinduque	586	258	1,123	336	3,164	1,673	4,873	2,267
Masbate	331	150	1,206	510	2,340	1,962	3,877	2,622
Mindoro	297	107	973	341	2,241	1,605	3,511	2,053
Misamis	695	446	1,703	1,231	5,007	3,555	7,405	5,232
Mountain Province	1,204	261	4,147	1,858	6,427	4,296	11,778	6,415
Nueva Ecija	5,014	904	3,823	2,081	6,079	6,357	14,916	9,342
Nueva Vizcaya	702	119	1,950	388	4,176	1,481	6,828	1,988
Occidental Negros	8.518	2,079	11,289	4,513	7,684	3,775	27,491	10,367
Oriental Negros	2,447	799	6,279	2,509	10,107	7,554	18,833	10,862.
Palawan	198	28	664	223	2,238	421	3,100	672
Pampanga	5,843	733	11.411	3,033	37,572	41,388	54,826	45,154
Pangasinan	13,144	2,408	19,868	6,208	17,519	13,198	50,531	21,814
Rizal	3,745	970	4,707	2,610	7,752	8,779	16,204	12,359
Romblon	532	216	1,335	890	2,402	2,188	4,269	3,294
Samar	2,526	1,021	12,324	4,652	35,147	16,815	49,997	22,488
Sorsogon	1,827	799	2,916	1,563	4,789	3,481	9,532	5,843
Sulu	480	135	2,007	919	4,194	2,469	6,681	3,523
Surigao	204	104	782	480	1,609	1,641	2,595	2,225
Tarlac	2,468	580	2,811	2,080	5,188	7,950	10,467	10,610
Tayabas	2,809	802	6,482	1,989	13,333	6,802	22,624	9,593
Zambales	764	352	788	582	1,173	2,226	2,725	3,160
Zamboanga	878	678	1,919	1,585	4,473	7,620	7,270	9,883
Total	124,390	33,344	245,856	90,691	453,181	344,423	823,427	468,458

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—												Total number injected		
	Males						Females								
	First injections		Second injections		Third injections		First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	9,739	7,615	511	406			8,683	6,418	517	190			32,455	1,624	
Antique	70	60	30	40			25	30	40	20			185	130	
Batangas	20,634	14,675	307	281			21,421	13,095	203	209			69,825	1,100	
Bulacan	4,100	6,071					3,936	4,730					18,837		
Cagayan	259	273	151	174			182	233	107	166			947	598	
Camarines Sur	178	36					63	29	16	19			306	35	
Catanduanes	462	507	406	440			93	193	78	173			1,255	1,097	
Cebu	1,370	1,165	516	191			1,302	945	434	223			4,782	1,364	
Iloilo	213	160	106	78			95	99	68	51			567	303	
Isabela	9						10	2					21		
Laguna	1,077	850	377	264			886	679	359	176			3,492	1,176	
Leyte			29	33										62	
Mindoro	13	8					9	6					36		
Pampanga	409	448	237	349			468	321	269	216			1,646	1,071	
Pangasinan	2,372	3,041	960	1,768			2,363	2,967	1,043	1,671			10,743	5,442	
Rizal	583	98	399	40			376	55	225	41			1,112	705	
Sorsogon	43	31					29	17					120		
Total	41,531	35,038	4,029	4,064			39,941	29,819	3,459	3,155			146,329	14,707	

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	92	41	26	21	26	5
Batangas	11	39		3		
Bulacan	1,720	930	1,348	731	1,066	794
Camarines Sur	1,274	817	550	271	303	542
Catanduanes	85	4	83	4	1	
Cotabato	33		26			
Davao	10		15			
Ilocos Sur	235	145	285	33	3	
Iloilo	130	63	129	61	81	31
Leyte					2	1
Laguna	2,563	1,166	1,294	632	751	153
Mountain Province	576	184	117	31	94	10
Misamis	37	5				
Nueva Ecija	864	670	464	446	132	198
Pampanga	1,294	1,381	840	921	332	519
Pangasinan	693	510	262	217	226	1,046
Rizal	649	249	366	119	349	95
Romblon	101	247	7	9	1	
Tarlac					8	
Total	10,379	6,455	5,818	3,504	3,395	3,458

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	12	1	11	9	18	45	29	31	147
Albay	55	62	17	36	5	14	250	120	50
Batangas	22	21	4	3			93	10	
Bulacan	1,825	952	1,491	753	1,196	725	5,427	4,323	3,781
Camarines Sur	1,041	557	462	267	175	293	3,689	1,530	1,313
Catanduanes	111	5	110	5			205	202	1
Cotabato	19		9				52	35	
Davao							10	15	
Ilocos Sur	176	113	117	49	3		669	484	6
Iloilo	96	60	86	56	53	28	349	332	193
Leyte					12				15
Laguna	2,915	1,625	1,751	924	1,150	474	8,269	4,601	2,528
Mountain Province	169	15	79	17	70	11	944	244	185
Misamis	20	7					69		
Nueva Ecija	489	603	309	455	138	178	2,626	1,674	646
Pampanga	1,303	1,162	960	841	309	397	5,140	3,562	1,557
Pangasinan	697	455	296	210	252	109	2,355	985	1,633
Rizal	623	178	330	103	333	72	1,699	918	849
Romblon	44	184	24	26	1		576	66	2
Tarlac				1	14	1			23
Total	9,617	6,000	6,056	3,754	3,729	2,347	32,451	19,132	12,929

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[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	142	296	230	287	....	....
Albay	243	271	111	92	....	....
Antique	1,284	1,321	565	771	....	....
Bataan	465	95	225	40	....	....
Batanes	352	419	....	....	....	....
Batangas	4,107	2,911	1,728	1,289	....	....
Bohol	554	....	815	....	....	....
Bulacan	1,030	1,593	818	1,055	....	....
Cagayan	2,083	1,115	937	432	....	....
Camarines Norte	1,016	160	526	....	123	....
Camarines Sur	1,419	1,081	323	407	....	....
Capiz	1,989	1,021	605	349	....	....
Cavite	5,334	8,350	3,998	7,764	....	....
Cebu	3,426	2,051	1,181	158	....	....
Cotabato	128	5	....	....	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	3,576	2,987	1,226	1,071	....	....
Ilocos Sur	1,935	581	1,899	363	423	16
Iloilo	845	494	616	338	....	....
Isabela	172	22	116	18	....	....
Laguna	1,929	1,165	672	397	....	....
Lanao	318	154	167	155	....	....
La Union	2,426	1,038	1,515	916	....	....
Leyte	51	2	29	....	....	....
Marinduque	1,045	919	895	1,170	....	....
Masbate	222	191	167	165	....	....
Mindoro	161	260	49	10	....	....
Misamis	1,250	828	340	158	....	....
Mountain Province	736	1,109	223	162	....	....
Nueva Ecija	1,332	987	748	973	59	114
Nueva Vizcaya	280	192	219	192	....	....
Occidental Negros	1,815	719	935	324	....	....
Oriental Negros	1,137	2,113	416	620	....	....
Palawan	70	....	....	....	....	....
Pampanga	3,857	4,913	2,697	3,722	67	190
Pangasinan	5,358	4,024	3,681	2,694	....	....
Rizal	21,501	16,146	4,384	2,413	....	....
Romblon	209	48	72	28	....	....
Samar	221	248	74	24	....	....
Sorsogon	482	768	106	155	....	....
Sulu	103	8	....	....	....	....
Surigao	248	165	164	107	....	....
Tarlac	1,678	1,733	737	1,015	....	....
Tayabas	3,182	1,065	1,132	606	....	....
Zambales	827	948	753	706	....	....
Zamboanga	1,301	673	....	....	....	....
Total	81,853	65,322	36,094	31,146	672	320

[1] Incomplete, reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	62	215	122	213	......	......	715	852	......
Albay	213	166	98	49	......	......	893	350	......
Antique	1,481	1,204	586	610	......	......	5,290	2,482	......
Bataan	335	137	234	70	......	......	1,032	569	......
Batanes	338	309	......	......	......	......	1,418	......	......
Batangas	4,365	2,568	1,669	1,044	......	......	13,951	5,730	......
Bohol	231	......	454	......	......	......	785	1,269	......
Bulacan	887	1,038	465	761	......	......	4,548	3,099	......
Cagayan	1,557	1,063	876	451	......	......	5,818	2,696	......
Camarines Norte	755	83	331	17	124	......	2,014	874	247
Camarines Sur	992	914	285	374	......	......	4,406	1,389	......
Capiz	1,431	697	434	96	......	......	5,138	1,484	......
Cavite	4,783	6,680	3,684	6,491	......	......	25,147	21,937	......
Cebu	2,904	1,775	901	184	......	......	10,156	2,424	......
Cotabato	31	6	......	......	......	......	170	......	......
Davao	8	20	......	......	......	......	75	......	......
Ilocos Norte	3,423	2,824	1,278	1,187	......	......	12,810	4,762	......
Ilocos Sur	1,190	630	1,342	354	248	6	4,336	3,958	693
Iloilo	536	462	452	415	......	......	2,337	1,821	......
Isabela	144	17	120	12	......	......	355	266	......
Laguna	1,773	1,450	768	412	......	......	6,317	2,249	......
Lanao	180	117	141	15	......	......	769	478	......
La Union	1,682	929	1,048	563	......	......	6,075	4,042	......
Leyte	29	2	29	4	......	......	84	62	......
Marinduque	948	973	629	1,136	......	......	3,885	3,830	......
Masbate	149	245	112	123	......	......	807	567	......
Mindoro	81	210	6	2	......	......	712	67	......
Misamis	903	608	281	186	......	......	3,589	965	......
Mountain Province	357	454	65	104	......	......	2,656	554	......
Nueva Ecija	589	465	479	826	32	117	3,373	3,026	322
Nueva Vizcaya	188	112	153	111	......	......	772	675	......
Occidental Negros	1,441	742	872	360	......	......	4,717	2,491	......
Oriental Negros	838	1,309	447	510	......	......	5,397	1,993	......
Palawan	......	......	......	......	......	......	70	......	......
Pampanga	3,497	3,634	2,368	2,785	94	179	15,901	11,572	530
Pangasinan	5,016	4,121	3,277	2,700	......	......	18,519	12,352	......
Rizal	19,002	13,691	3,001	1,767	......	......	70,340	11,565	......
Romblon	156	54	46	18	......	......	467	164	......
Samar	118	361	32	61	......	......	1,048	191	......
Sorsogon	261	549	73	96	......	......	2,060	430	......
Sulu	26	9	......	......	......	......	146	......	......
Surigao	52	31	210	115	......	......	496	596	......
Tarlac	928	1,387	366	725	......	......	5,726	2,843	......
Tayabas	2,345	781	778	267	......	......	7,373	2,783	......
Zambales	660	757	635	597	......	......	3,192	2,691	......
Zamboanga	824	770	......	......	......	......	3,568	......	......
Total	67,709	54,569	29,097	25,811	498	302	269,453	122,148	1,792

[1] Incomplete, reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF NOVEMBER, 1924

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES, RECEIVED DURING THE MONTH OF NOVEMBER, 1924

(No case and no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF NOVEMBER, 1924

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	Total
	Intramuros	Meisic	Sampaloc	Tondo	Paco	
Orders pending November 1, 1924:						
Minor	67	48	26	46	33	220
Sewer	11	54	9	13	3	90
Vacating	2	8	4	3	16	33
Filling	8	11	14	6	5	44
Total	88	121	53	68	57	387
Orders issued during the month:						
Minor	10	16	10	3	2	41
Sewer	....	....	....	....	....	....
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	10	16	10	3	2	41
Grand total	98	137	63	71	59	428
Orders completed during the month:						
Minor	13	22	9	4	4	52
Sewer	....	2	....	....	....	2
Vacating	2	....	....	....	....	2
Filling	1	....	1	....	....	2
Total	16	24	10	4	4	58
Orders cancelled during the month:						
Minor	1	....	1	2	1	5
Sewer	....	....	2	....	....	2
Vacating	....	....	....	....	....	....
Filling	....	....	....	....	....	....
Total	1	....	3	2	1	7
Orders pending November 30, 1924.						
Minor	63	42	26	43	30	204
Sewer	11	52	7	13	3	86
Vacating	....	8	4	3	16	31
Filling	7	11	13	6	5	42
Total	81	113	50	65	54	363
Strong material plans approved:						
New buildings including additions and alterations	10	12	15	29	5	71
Permits for minor building construction:						
Approved	15	20	21	25	11	92
Disapproved	1	5	6	14	2	28
New buildings completed	9	11	10	14	5	49
Light and mixed material construction:						
Permits approved	4	1	5	17	4	31
Permits disapproved	2	....	4	7	4	17
Total number of building projects passed upon	41	49	61	106	31	288
Prosecutions:						
Convictions	....	....	....	....	....	....
Dismissals	1	....	1	....	....	2
Amount of fines	....	....	....	....	....	....
Plumbing permits issued	33	52	48	39	14	186
Plumbing projects completed	33	60	17	38	14	162
Premises connected to the Sanitary Sewer to October 31, 1924	1,768	2,943	1,132	623	446	6,912
Premises connected during November, 1924	8	6	1	4	1	20
Total	1,776	2,949	1,133	627	447	6,932

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

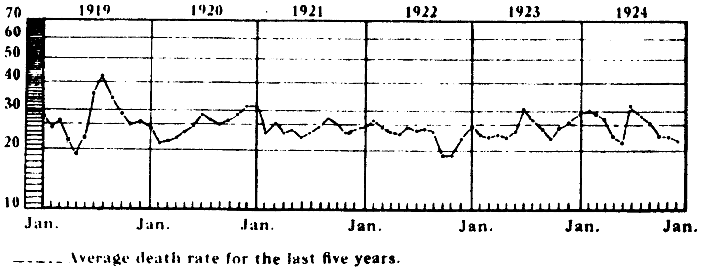
MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV DECEMBER, 1924 No. 12

Entered at the Manila Post Office as second-class matter

For the state as for the individual, health is the first postulate of prosperity, and prosperity should be the first object of a scientific Government.—Sir RONALD ROSS.

ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. IV DECEMBER, 1924 No. 12

THE PRESENT STATE OF ANTI-LEPROSY WORK IN THE PHILIPPINE ISLANDS

By DR. JOSE P. BANTUG
Acting Executive Officer, P. H. S.

The past three years have witnessed a considerable progress in the treatment of leprosy in the Philippines that a brief review of the work thus far accomplished, both at San Lazaro Hospital and in Culion, may not be unprofitable at this time.

The age-long belief that leprosy is an incurable disease may now be said to be definitely disproved, thanks to the dogged determination and patient researches of such men as Dyer, Hopkins, Rogers, and McDonald and Dean, to mention only a few. In the Philippines some original work has been done along this line. In one of the most interesting chapters of Noli Me Tangere, Rizal has given us vivid glimpses of the cure of the disease. Valdes has employed the crude oil with success and Bautista y Lim has used the gynocardates of chaulmoogra by mouth fully three decades earlier than his colleagues in other lands. Mercado, in his modest, unobstrusive way, has brought about the recovery of a number of patients at San Lazaro Hospital, the publication of whose results in 1914 by Heiser, attracted worldwide attention, reawakened a greater interest in the treatment of the disease and brought, as has been justly remarked by McDonald, the hypodermic injection of the oil into popular use.

The initiative of the present systematic campaign for the treatment of the disease in these Islands, should be credited to Professor Albert, who, soon after the publication of Roger's reports, was instrumental in creating the Philippine Health Service's Committee on Leprosy Investigation, and the Director of Health, in issuing the Special Order to this effect on May 3, 1920, declared its aims to be that of undertaking investigation in connection with the treatment of leprosy. After experimenting with different preparations for several months, the Committee rendered a report on the relative merits of each. This work was accomplished without the aid of Government funds beyond the purchase price of the crude material. The oil was purified, the different compounds prepared therefrom at the Bureau of Science, and the treatment administered to a selected group of 76 (later increased to 107) patients at San Lazaro Hospital. These patients had active lesions of various types, and were chosen regardless of the duration of the disease or the extent of lesions. Most of the cases were of long duration, with very extensive involvement. Six subgroups were formed, according to the kind of treatment employed, distributing the cases as evenly as possible according to age and type of the disease. Patients with pulmonary, cardiac, or renal disease were excluded and new ones substituted. The preparations employed were—

1. Sodium gynocardate "A" ("Hydnocarpate" of Rogers). The sodium salts of chaulmoogra oil fatty acids which have been recrystalized from alcohol. The mixture of acids used melts at about 37° C.

2. Sodium gynocardate "S." The sodium salts of the total fatty acids of chaulmoogra oil.

3. Sodium morrhuate. The sodium salts of the fatty acids of cod liver oil.

4. Chaulmoogra emulsion "S" (Collobiasis substitute). An emulsion containing 0.72 gm. of chaulmoogra oil and 14.4 Gms. of acacia per liter.

5. The Mercado mixture, prepared at San Lazaro Hospital according to this formula:

Camphorated oil	10 per cent
Chaulmoogra oil, sterilized aa	60 c. c.
Resorcine	4 Gms.
Ether	2.50

M.S. For intramuscular injection

Collobiasis (Daussè) has also been employed, and then, as data became available, the ethyl esters of Holman and Dean, plain and iodized, were prepared, and the E–C–C–O of Müir tried.

The methods of administration were the intravenous, the intramuscular, the intradermic, and their combinations. The gynocardates of chaulmoogra, in 3 per cent solution, were given by the intravenous method. The same procedure was followed in the case of sodium morrhuate. The chaulmoogra emulsion, Mercado mixture, E–C–C–O, and ethyl esters, were given by the intramuscular method and the Collobiasis (Daussè) by the intradermic. The Mercado mixture, the ethyl esters (pure and iodized), and Collobiasis (Daussè) have also been given by the intradermic method.

Excepting the Mercado mixture which is given once a week, all the other preparations are given twice a week, except when contra indications exist.

The dosage varied according to the preparation employed. Sodium gynocardate was given in 5 drops doses twice a week and increased gradually until the maximum of about 10 c. c. was reached. Then the average of 5 c. c. was continued twice a week. Immediate reactions were slight or none at all. As a late sequela, thrombosis of the veins was produced and the treatment had to be discontinued on this account.

Sodium morrhuate was given in 5 drops doses and gradually increased until the maximum of 8 c. c. was given. An average of 5 c. c. then continued. The reactions were rather severe, producing at times, sloughing of the skin at the sight of the injection. It also produced thrombosis of the veins and as a consequence the treatment had to be discontinued.

Chaulmoogra emulsion has been found to be inferior to Daussè and so this latter preparation was preferred. Intradermically administered at first, it was also given intravenously at an initial dose of 5 drops, increased gradually until an average of 2 c. c. was reached. No reactions were observed.

The Mercado mixture was given intramuscularly beginning with 1 c. c., increased gradually until an average of 6 c. c. was given. The reaction following this method of treatment was rather severe, with local and constitutional symptoms.

The ethyl esters of chaulmoogra were given intramuscularly, beginning with 1 c. c. a week gradually increased until an average of 3–4 c. c. was reached. This dose was later given twice a week. Reactions sometimes occurred in the form of fresh slightly raised eruption, which, upon disappearance, was followed by marked improvement of the patient's symptoms.

In the course of these investigations, we have observed that the patients' symptoms have remarkably improved, and in not a few instances, ended in recovery. The lesions in a number of patients, have however, become stationary, and no further improvement effected, until the committee decided to change the treatment. They were invariably followed by further improvement. The treatment was withheld from those cases showing idiosincracy to the drug, as shown by repeated and severe reactions or developing symptoms of acute nephritis, pulmonary tuberculosis, and marked secondary anemia.

In the first report of the Committee to the Director of Health, 86 per cent of the case under sodium Gynocardate "A" have improved sodium morrhuate in 75 per cent, Mercado mixture in 64 per cent, Gynocardate "S" in 60 per cent, and chaulmoogra oil emulsion in about 38 per cent. In view of these finding, the Committee recommended—

1. That one or more of the new methods of treatment be made available for all the segregated lepers in the Philippine Islands.
2. That the present investigation be continued on a larger scale, with a view to further improving the methods of treatment.
3. That a board or committee of treatment be created.

Governor-General Harrison, in his Eighth Annual Message to the Fifth Philippine Legislature, delivered October 16, 1920, has fully indorsed the Committee's work in the following words:

> I urge upon you a large appropriation for the application of the new cure for leprosy to the unfortunate inmates of the Leper Colony at Culion; since the lepers are isolated by government regulation, and are unable to seek a cure except through our aid, it is clearly the duty of the Government to hold out to them the wonderful opportunity of this new treatment, bringing a promise of redemption to many of them.

As a result of this appeal, the Legislature has on February 21, 1921, approved Act No. 2978, "An act appropriating the sum of one hundred thousand pesos for the extension of the work in connection with the treatment of lepers and the clinical study of leprosy, and for other purposes." The funds becoming thus available, additional physicians were appointed on the Culion staff and the treatment was extended to a selected group of 500 cases at the Culion Leper Colony on July 1, 1921, and by the end of the year, 999 patients were under treatment. This number represented, however, less than one-fifth of all the segregated lepers and the Committee, in reviewing its work for 1921, gives the following summary:

> The results have been so favorable that these methods are partially carried out in the Culion Leper Colony at the present time and it is hoped that the number of negatives so far warrant an outlay by the Government of further large appropriations in attempting the cure of leprosy.

Upon taking the reigns of government, Governor-General Wood in his Inaugural Address and Message to the Fifth Philippine Legislature, delivered in October, 1921, foreseeing the great possibilities of these modern treatments, and conscious as a physician and a sanitarian of long experience in the

Tropics, of the final triumph of science over this malady, which has thus far baffled the efforts of physicians of all ages and peoples, had the following to say:

> The great colony at Culion needs better facilities for the segregation of those whose reactions have become negative and for the children who are born without apparent taint of the disease. Sufficient appropriation must also be made for continuing the development of the new treament which gives such encouraging promise for the cure of the disease. We are now able to provide means for only a portion of those requiring the treatment. This condition is one which demands your prompt and humane consideration.

In response to this appeal, the Appropriation Act for 1922 contains under Special Appropriation the following item:

> For the treatment of leprosy, in accordance with Act No. 2978, including payment of additional compensations approved by the Department Head, which shall in no case exceed two thousand pesos, to physicians and other technical employees and to the nurses assigned for service in the Culion Leper Colony, for purposes of said Act, ₱200,000.

As this amount could not fully meet the plan to get a sufficient number of physicians, technicians, nurses, and attendants corresponding to the necessity of giving each individual, of the 5,000 cases under segregation, the intensive and systematic attention necessary for the success of the undertakings, and because of the fact that the remuneration for the technical and administrative personnel had to be relatively higher than in other branches of the Government service, the Governor-General was appealed to and thru him, the Emergency Board made available an additional sum of ₱300,000 to carry on the work as originally outlined.

At the present time of about 5,400 lepers segregated at the Culion Leper Colony, 4,500 are under intensive treatment. Some few have been paroled already, and the greater number are in various stages of improvement.

The results so far obtained both here and in Culion, may be judged from the following figures: In 1922, 133 were paroled as negative after complying with the present quarantine regulations, against 53 in 1921, and 31 in 1920.

The Committee has not yet terminated its labors but the following tentative conclusions may be given:

1. The trend of the present investigation appears to be in the right direction, and it is believed that still more positive results may follow the judicious applications of the methods and preparations now at our command.

2. The patients appear to improve on any of the chaulmoogra oil derivatives, but in the course of treatment, a stage is reached whereby no further clinical improvement is observed.

3. At this point, unscientific as the procedure may seem to be, the Committee on treatment, has invariably recommended a change of treatment, and it was observed that this was always followed by further improvement, tending, in many instances, with the complete disappearance of all the cutaneous manifestations and the clinical cure of the disease. I should like to remark in passing, that, this same phenomenon, independently of our observations, was reported by the Portuguese investigators in Goa and the English in Calcutta.

4. That the prompt response to the treatment appears to be dependent upon the amount of the drug absorbed in the system.

Agencies, other than those of the Government, have, since the inception of the Committee's work, taken interest in it—the Philippine Anti-Leprosy Society and the Knights of Pythias—and we may confidently hope that, thru the continued support of the Governor-General, still greater progress will be made in the future.

RESULT OBTAINED FROM THE VARIOUS TREATMENTS OF LEPROSY AT SAN LAZARO HOSPITAL, 1920-1924

By

DR. CATALINO GAVINO

Chief, San Lazaro Hospital, Chairman of the Committee on Diagnosis of Leprosy

DR. SAMUEL TIETZE

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[Abstract from a paper read at the Joint Annual meeting of the Philippine Islands Medical Association and the Manila Medical Society, December 20, 1924]

The authors have tried to describe the main results, as fully as possible, of the various treatments carried out in San Lazaro Hospital during the last five years. In our treatments with various drugs we have encountered numerous difficulties in endeavoring to obtain useful data for comparative information. The patients under our investigations were continually changing in number; some stopping the treatment altogether; some sent to Culion; while others insisted upon changing their treatment from time to time, so that at times we were compelled to experiment with such patients that had previously been saturated with other drugs or benefited in the past by some other method of treatment. It will, therefore, be seen that the accurate calculation of percentages in "cures" must be given cautiously and with a good deal of reserve, when giving credit to the curative power of a particular drug. This difficulty is specially encountered in cases receiving a combination of treatments.

It was principally for this reason and the avoidance in the future of criticism for causing misleading interpretations, that the entire question of "percentages" was omitted in this paper. The treatment of leprosy in San Lazaro Hospital can be considered in 1920 as the beginning of a scientific investigation of the efficacy of the various drugs then being tried out in other parts of the world. Previous to this, all scientific data concerning the treatment in San Lazaro were practically nil. No accurate data were kept regarding the methods of treatment, the description of the disease or its diagnosis. In July 1920, a

Committee by order of the Director of Health met in San Lazaro Hospital, for the purpose of investigating the therapeutic effect of several anti-leprotic drugs. The different drugs investigated were those advocated by Col. Rogers in India and Dr. Dean in the Hawaiian Islands. Patients for experimental treatments were selected side by side and compared with the treatment of Dr. Mercado's mixture previously introduced by Dr. Heiser. Previous to 1920, this latter mixture was the principal treatment then given at Culion and San Lazaro Hospital. The results of this standard Mercado treament were very discouraging in the past. A good many of the negative cases turned out previous to 1920, were either found to have suffered from yaws or were not leprotic. As the Committee began its work in July 1920, no results were naturally expected until a year had elapsed. In order to present these various results of our investigation in a comprehensive manner we felt that a description of the work from year to year would be more easily appreciated; in other words, we have tried to give a panoramic view, of the successive developments of treatments and results during the last five years.

RESULTS IN 1920

The four principal experiments of this year centered about the plain chaulmoogra ethyl esters without iodine; 3 per cent solution of sodium Gynocardate; sodium Morrhuate and the Mrcado mixture.

(A) Sixteen leper patients were given plain Chaulmoogra Ethyl Esters by intramuscular injections. The dose varying from ½ to 9 c. c. twice a week. No definite results were obtained from this treatment at the end of the year. A few cases of marked local reactions in the form of abscess at the point of injection were noted.

(B) Sixteen (16) leper patients were given intravenous injections of sodium Gynocardate varying from ½ to 10 c. c. twice a week. These injections were given very slowly in a lying down position. Some patients complained of slight headache and dizziness and with the exception of an occasional plugging up of the veins the constitutional reactions in our series were practically negligible.

(B-1) Fifteen (15) leper patients were given sodium Morrhuate also intravenously, the dose varying from 3 to 6 c. c. The local reaction found in these patients was at time very startling. They took the form of local gangrene around the point of injection. In spite of all treatment, these gangrenous areas broke down and formed large sloughing ulcers. However, in spite of these alarming complications, brilliant improvement was noted in some cases.

(C) The Mercado treatment, as heretofore, was given to the rest of the patients by the intramuscular method, the dose varying from 5 to 10 c. c. once a week.

At the end of 1920 (six months of experimentation), no negatives were obtained. The only conclusion the Committee could arrive at was that the Hawaiian method was the easiest in technic and gave the least discomfort to the patients in general.

RESULTS IN 1921

To summarize the result obtained up to the end of 1921, we can briefly state that of the forty-six (46) cases who received the treatment advocated by Doctor Rogers, nine (9) became negative. Three hundred sixty-six (366) patients treated with the plain chaulmoogra ethyl esters (Doctor Dean) also yielded nine (9) negatives. Fifteen (15) cases with the Mercado mixture resulted in three (3) negatives, while fourteen (14) cases with Doctor Reitz's methods gave no results.

RESULTS IN 1922

(A) During the year, many modifications were made in the chaulmoogra ethyl esters (Doctor Dean). These were tried with the view of increasing the intensity of the curative power of the drug, while at the same time attempting to reduce the local and constitutional reactions to a minimum. The most important change made was, in the addition of iodine tried out in various proportions from ½ to 2½ per cent.

One marked beneficial result was the practical abolition of local abscesses.

At the end of the year, the Committee was convinced that of the numerous modifications of the drug, the ethyl ester of chaulmoogra combined with ½ per cent iodine, gave the best and quickest results with the least possible local and constitutional reaction. It was therefore decided that this method in the future be the standard treatment at San Lazaro Hospital. We have also combined this intramuscular injection with small quantities of the same drug by oral administration. Five drops was the average dose given by mouth. The patients claimed that they noted a marked improvement in their appetite and digestion. Of the five hundred forty-four patients who received this standard method of treatment, twenty were found negative during the year.

Out of 436 cases given the Ethyl Ester of Chaulmoogra with $\frac{1}{2}$ per cent iodine, 18 became negative.

B) The sodium Gynocardate administration was still continued and of the twenty-two (22) patients, three (3) became negative. The twelve (12) patients receiving sodium Morrhuate yielded five (5) negatives. In another words, out of the thirty-four cases, treated by the Doctor Roger's method, a total of eight (8) negatives were obtained.

(C) Only eleven (11) cases volunteered for Mercado's mixture, resulting in three (3) negatives during the this year.

RESULTS IN 1923

During this year, the same standard treatment with chaulmoogra ethyl esters $\frac{1}{2}$ per cent iodine was given to three hundred sixty-six (366) patients resulting at the end of the year in thirty-five (35) negatives.

The following is a brief résumé of other treatments used:

Mercado's mixture	13	1
Doctor Reitz's	1	0
Electraurol	3	0
Collobiasis (intravenous) and chaulmoogra ethyl esters with $\frac{1}{2}$ per cent iodine (intramuscular)	4	0

RESULTS IN 1924

(A) The committee had noticed during the past two years that some patients after marked improvement came to a practical stand still. Such cases whose treatments were changed or combined with other drugs, continued to show further improvement. It was therefore decided to change or combine treatments in one hundred twenty-three (123) cases where the clinical picture showed no further progress. This method yielded four (4) additional negatives.

(B) Of the fourteen (14) cases who received the Mercado's mixture one became negative.

(C) One patient who was practically 90 per cent cured by Dean's method received a preparation known as "Esparseno," a chemical preparation containing arsenic. The case became negative microscopically after a short series of intramuscular injections.

(D) One patient who has still persisted in using Doctor Reitz's treatment from last accounts received was still positive.

During this year seventy-two negatives were found among five hundred and three lepers who received the standard chaulmoogra ethyl esters with $\frac{1}{2}$ iodine.

In touching upon the causes of death in leprosy, we wish to point out the danger signals to look for during the treatment and the precautions to be used in the preliminary examination of patients. Since it has been proven beyond a doubt that the active principle of the various chaulmoogra oils have a selective congestive action on the pulmonary and urinary systems, it would not be out of place to always keep in mind that pathological processes effecting the lungs or kidneys simultaneously with leprosy may be dangerously aggravated in administering this drug. It has been our sad experience in the past to bring either to an active process latent pulmonary tuberculosis or to cause the onset of an acute nephritis. The findings of Doctor Pineda of Culion, in his article comprising the numerous autopsies performed at Culion, somewhat agree with the causes of our deaths in San Lazaro.

Below are given some of the common forms of the pathological processes affecting particularly the pulmonary and urinary systems which may have been aggravated to such an extent as to cause a fatal termination of the disease. The prevalence of tuberculosis should be noted.

Mortality

Causes of deaths	Deaths		Total deaths from all causes
1920			
Leprosy; chronic *nephritis*	1		
Leprosy; *tubercular* laryngitis	1		
		2	9
1921			
Chronic *cardio-renal* disease; suppurative periarthritis left elbow; etc	1		
Chronic pulmonary and intestinal *tuberculosis*, etc	1		
		2	3
1922			
Leprosy, macular; extensive diffuse pulmonary *hemorrhage*, etc	1		
Leprosy, mixed type; pulmonary *tuberculosis*	3		
		4	17
1923			
Acute cardiac dilatation; *broncho-pneumonia*, etc	1		
Acute myocarditis; acute *nephritis; leprosy*, etc	1		
Acute ulcerative *pulmonary tuberculosis*, etc	16		
Generalized tuberculosis (*pulmonary, kidney*, etc.)	3		
Leprosy anæsthetic; *chronic nephritis*, etc	1		
Lobar pneumonia, nephritis, etc	1		
		23	31
1924			
Chronic apical ulcerative tuberculosis	14		
Leprosy, nodular; *chronic nephritis*	2		
Leprosy, nodular; *tuberculous* meningitis and *pneumonia*	1		
		17	35
Totals		48	95

Of the ninety-five (95) deaths during the last five years, thirty-nine (39) (about ⅓) suffered from tuberculosis.

CONCLUSIONS

1. During the period from 1922 to 1924, inclusive, eighty-two (82) patients were given certificates of parole and thirty-three (33) permanently joined the community as useful citizens (115 negatives).

When one is acquainted with the results of the anti-leprotic treatments fifteen or twenty years ago and compares them with the present number of negatives, such favorable progress is almost unbelievable. The writers who had seen a negative case for the first time ten years ago, was under the impression that the cure was miraculous; rescued from a hopeless disease; taken from a "living death" and allowed to enjoy the pleasure of this world.

2. The number of negatives obtained from chaulmoogra oil derivatives during the last four years were as follows:

	Negatives
1921	21
1922	28
1923	35
1924	78
Total	162

3. The chaulmoogra ethyl esters with the ½ per cent iodine produced on an average the quickest improvement. It is the easiest in technic and gives the least discomfort to the patient. It has given us the greatest number of negatives in San Lazaro Hospital.

4. A thorough examination of the internal organs especially of the lungs and kidneys before beginning the anti-leprotic treatment, should be carried out.

5. We believe that every case of leprosy, if begun within one year from its incipient stage, can be arrested or most probably "cured" within a period ranging from one to two years treatment provided there are no complications or concurrent diseases of the internal organs.

6. Our experience has taught us to look upon a skin reaction as an index for favorable prognosis.

7. We consider good food an extremely important factor in the treatment of leprosy. With this of course goes proper hygienic surroundings. As this disease practically ostracizes

the patient great care should be taken in providing him with mental occupation and diversions.

8. The word "cure" in this paper should be used in the sense that the patient is released from his quarantine and allowed to mingle in the community without menace to his fellow beings. It implies a disappearance of surface lesions and microscopical negative findings. Whether we can accomplish the curability of leprosy thoroughly and permanently from a strictly medical standpoint, the future holds the answer.

9. The bright hope of "cure" is beyond doubt well inculcated in the minds of those who are now suffering from this disease.

10. Great credit and thanks should be extended to the following physicians for their guidance and supervision during first half of the period covering the above investigations:

Dr. H. W. Wade, Chief Pathologist, Culion Leper Colony.

Dr. G. A. Perkins, Chief Chemist, Culion Leper Colony.

Dr. Liborio Gomez, Professor of Pathology, University of the Philippines.

Dr. Proceso Gabriel, Member of Committee on Diagnosis of Leprosy.

Dr. J. P. Bantug, Executive Officer, Philippine Service.

SAN LAZARO HOSPITAL

[Leper Department]

Forms of Treatment

	1924		1923		1922		1921		1920	
Number of patients treated—										
From among admissions during the year	303		359		391		302		266	
During the year, but admitted previous to that year	347		283		213		141		116	
Total number of patients treated during the year	650		642		604		433		382	
Distribution according to form of treatment received	Treated	Negative	Treated	Negative	Treated	Negative	Treated	Negative	Treated	Negative
Chaulmoogra ethyl esters with ½ per cent iodine	503	72	633	35	436	18	......	......	......	......
Mercado mixture	14	1	13	1	11	3	15	3	320	1
Mixed treatment (1 and 2 combined)	123	9	......	......	......	......	......	......	......	......
"Esparseno"	1	1	......	......	......	......	......	......	......	......
Ketonina	8	1	......	......	......	......	......	......	......	......
Doctor Reitz's treatment	1	0	1	0	1	0	14	0	......	......
Electraurol	......	......	3	0	......	......	......	......	......	......
Collobiasis Daussè and chaulmoogra ethyl esters with ½ per cent iodine, combined	......	......	4	0	......	......	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) No. 1 combined	......	......	......	......	25	0	......	......	......	......

SAN LAZARO HOSPITAL—Continued

[Leper Department]—Continued

Forms of Treatment—Continued

Distribution according to form of treatment received	Treated	Negative	Treated	Negative	Treated	Negative	Treated	Negative	Treated	Negative
Fatty acids of chaulmoogra oil without iodine (per orem) No 1 combined	......	......	......	......	12	0	......	......	......	......
Fatty acids of chaulmoogra oil without iodine (per orem) and chaulmoogra ethyl esters (plain) combined	......	......	......	......	1	0	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) and chaulmoogra ethyl esters (plain combined)	......	......	......	......	15	0	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) and cod liver oil esters with 2 per cent iodine combined	......	......	......	......	4	0	......	......	......	......
Fatty acids of chaulmoogra oil without iodine (per orem) and cod liver oil esters with 2 per cent iodine combined	......	......	......	......	3	0	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) and Ecco mixture (ethyl esters, camphor creosote olive oil)	......	......	......	......	6	0	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) and chaulmoogra ethyl esters plain and collobiasis	......	......	......	......	2	0	......	......	......	......
Fatty acids of chaulmoogra oil with 2.5 per cent iodine (per orem) and Ecco and collobiasis	......	......	......	......	1	0	......	......	......	......
Chaulmoogra ethyl esters (plain or without iodine)	......	......	......	......	25	0	352	9	16	0
Cod liver oil esters with 2 per cent iodine	......	......	......	......	7	0	......	......	......	......
Chaulmoogra ethyl esters (plain) refined	......	......	......	......	2	0	......	......	......	......
Ecco mixture (ethyl esters, camphor, creosote, olive oil)	......	......	......	......	12	0	......	......	......	......
Collobiasis and chaulmoogra ethyl esters with 0.5 per cent iodine combined	......	......	......	......	2	2	......	......	......	......
Collobiasis and chaulmoogra ethyl esters without iodine	......	......	......	......	1	0	......	......	......	......
Crude chaulmoogra oil (per orem)	......	......	......	......	1	1	......	......	......	......
Sodium gynocardate, "A" and "D"	......	......	......	......	22	3	30	4	15A 15D	0
Sodium morrhuate	......	......	......	......	12	5	16	5	16	0
Chaulmoogra emulsion	......	......	......	......	......	......	16	0	......	......
Totals	650	84	654	36	604	32	443	21	382	1
Deaths	35		31		17		3		9	

Discharged (apparently cured)—parole and certificate and corresponding type of disease

SAN LAZARO HOSPITAL

	1920	1921	1922	1923	1924	Total 1920–1924	Remarks
Certificate of discharge:							
Macular	.....	4	1	3	4	12	Certificate of parole issued six months after first negative finding (clinically and microscopically). He must then report once a week for treatment and interval examination for eighteen months. At the end of two years from date of first negative, he is given certificate of discharge. He must then keep in touch with the local district health officer for a period of two years. All certificates are issued by the committee of three physicians appointed by the Director of Health.
Nodular	1	1	.....	6	5	13	
Anæsthetic	.....	4	.....	1	2	7	
Mixed	.....	.....	.....	1	.....	1	
Parole certificate:							
Macular	.....	.....	5	7	4	16	
Nodular	.....	.....	10	38	16	64	
Anæsthetic	.....	.....	2	8	2	7	
Mixed	.....	.....	.....	3	2	5	
Total	1	9	18	62	35	125	

The three tables below give the last report for December 20, 1924. These enumerate the number of patients: negatives, positives, and suspects, at the San Lazaro Hospital.

Table "A"

Cases	Male	Female	Total
Positive	262	128	390
Negative	63	27	90
Suspects	17	6	33
Total	342	161	503

Table "B"

Cases	Male	Female	Total
Single	153	55	208
Widow	27	23	50
Married	136	65	201
Boys and girls (under 15 years)	26	18	44
Total	342	161	503

Table "C"

Cases	Male	Female	Total
Under 7 years old	.....	.....	.....
Under 12 years old	7	5	12
Under 21 years old	84	54	188
Under 30 years old	96	29	125
Under 40 years old	72	23	95
Under 60 years old	70	42	112
From 60 years old	13	8	21
Total	342	161	503

FOURTH PROGRESS REPORT OF LEPROSY TREATMENT WORK AT THE CULION LEPER COLONY

By JOSE RODRIGUEZ, M.D.
Acting Chief Physician, Philippine Health Service

In order to follow the progress of the present leprosy treatment campaign in this colony, semi-annual reports have been rendered by the physicians of the medical sections. This is the fourth report, the fifth being in the course of preparation.

RESULTS OF TREATMENT

Out of the total 2,810 patients receiving routine anti-leprosy treatment as of March 31, 1924, the following table shows the present status of the cases:

	Per cent
Negatives	9.7
Improved	62.0
Stationary	15.6
Worse	12.6

There were 273 negatives under treatment, not including 40 who had been paroled or discharged previous to the time of this report. It may be mentioned in this connection that from May 1921, to October 31, 1924, 405 patients have been declared negative at Culion. This figure does not include a few cases in which the original diagnosis of leprosy seems doubtful. In addition, there are now about 300 cases which were considered negative by the treating physicians and presented as such to the Negative Examining Committee. These were found to still show traces of activity of the disease and a considerable percentage may be expected to become negative within a year.

DRUGS USED

The following table gives the total results obtained with the five main preparations used:

TABLE 2.—*Total improvement by drugs*

Drugs	Total treated	Results					
		Improved				Stationary	Worse
		Neg.	Mark and Moderate	Slight	Total		
Chaulmoogra ethyl esters (plain) (C. E.)	161	14.3	26.1	21.6	62.0	21.1	16.8
Chaulmoogra ethyl esters w/l ½ per cent iodine (C. E. I.)	758	9.1	44.7	23.7	77.3	11.9	10.8
Chaulmoogra ethyl esters w/l 10 per cent creosote (C. E. Cr.)	423	12.0	41.6	19.6	73.2	13.9	12.7
Chaulmoogra ethyl esters w/l 12 per cent iodine and 10 per cent creosote (C. E. I. Cr.)	935	9.8	35.3	29.2	74.3	16.6	9.1
Mercado mixture	533	6.4	29.5	24.4	60.3	19.3	20.4
Total	2,810	9.7	37.0	25.0	71.7	15.6	12.6

From these figures it appears that the iodized ethyl esters continue to give the best results with a total gross improvement of 77.3 per cent. The creosoted preparations also show considerable advantage over both the plain ethyl esters and the Mercado mixture. The addition of 0.5 per cent iodine or of 10 per cent creosote to the plain ethyl esters renders this preparation less irritating locally. The irritating properties of both iodine and creosote being known, these results seem paradoxical. The iodine, however, enters into chemical combinations, apparently thus neutralizing certain irritating elements of the plain ethyl esters. According to Dr. G. A. Perkins, chief chemist of this colony, creosote probably also enters into combination, though more loosely than iodine, but seems to effect similar results.

Improvement under Mercado mixture is rather slow as compared with the ethyl esters, but this preparation offers and advantage over the other drugs in that it does not noticeably affect the kidneys as do the other medicaments and can therefore be administered even when some degree of nephritis is present. More detailed studies are at present being made on this drug.

The plain chaulmoogra ethyl esters have been found to be too irritating and their use has practically been abandoned.

MINOR PREPARATIONS

A few minor medications are also being tried on a small scale. Under these may be included Professor Deyke's Nastin, combined with streptothrix vaccine; Leprolysin, a bacterial product made in Cuba; cod liver oil with 10 per cent thymol; Hydnocarpus Wightiana ethyl esters, and the pure chaulmoogra oil as advocated by Mitsuda,[1] a Japanese leprologist. This latter preparation has been slightly modified by Dr. C. B. Lara, chief physician, by the addition of $\frac{1}{2}$ per cent iodine. The trials with these drugs have not yet been completed; no definite conclusions can at this time be drawn as to their usefulness.

The higher alcohol esters of chaulmoogra oil (butyl, propyl, and amyl) have also been tried out on a small scale but were found to be less efficacious than the ethyl esters. The cod liver oil esters proved to be too irritating locally and were also discarded.

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[1] Mitsuda, K., Personal communication.

DOSE

In the past semi-annual reports, the results with those patients receiving higher doses were shown to be decidedly superior, but the corresponding figures for the period of this report did not give as conclusive results.

It must be borne in mind that the ethyl esters and the pure oil contain almost twice as much chaulmoogric acids as a corresponding amount of Mercado mixture. Two to five cubic centimeters, varying according to the age, weight, and bodily condition, is considered the average weekly dose for the ethyl esters; to secure the same results, 4 to 10 cubic centimeters of Mercado mixture has to be injected. While 40 per cent of the patients under iodized ethyl esters received a dose of 5 cubic centimeters or more, but 21 per cent of those receiving the creosoted preparations (C. E. Cr. and C. E. I. Cr.) were given such amounts. With the Mercado patients, only 15 per cent were able to stand the corresponding dose of 10 or more cubic centimeters. Therefore, relatively more patients stood higher doses of iodized ethyl esters than of the creosoted preparations, or the corresponding amount of Mercado mixture.

FREQUENCY OF INJECTION

As a rule, injections are given at weekly intervals; only a small group is being treated twice a week.

DURATION OF THE DISEASE

There are two totally dissimilar groups that respond very favorably to the treatment: (1) Cases in which the duration is less than 5 years, and (2) those who had had the disease for 20 or more years. The long-standing cases probably possess a strong natural resistance against the disease, and in the advanced stage harbor comparatively few bacilli, located principally in the lymphatic glands, at the nerves, or on the nasal septum.

DURATION OF TREATMENT

Even with the best methods of treatment available, a long period of steady medication is still necessary to obtain definite results in leprosy. Some idea of the duration of this treatment may be had from the study of the next table, which shows the percentages of improvement based on the duration of the treatment by six-month periods.

TABLE 4.—*Total time treated to improvement*

Months treated	Number of cases	Results		
		Improved	Stationary	Worse
		Per cent	*Per cent*	*Per cent*
To 6	24	29.2	58.3	12.5
6–12	92	50.0	23.9	26.1
12–18	314	70.6	17.5	11.8
18–24 [1]	1,344	61.3	21.2	17.4
24–32	749	85.4	8.3	6.3
32–35	302	84.3	6.0	9.6

[1] This large group includes many unfavorable cases placed under treatment at the beginning of present campaign.

Excepting the 18–24 months group, consisting of a large mass of cases, many of which are unfavorable, placed under treatment at the beginning of the present extensive campaign, there is a progessive increase in the improvement column up to 24–32 months, and a corresponding decrease in the stationary column up to 32 months.

LEPRA REACTION

The so-called "lepra reaction" is recognized by all workers to be of particular importance in treatment work. Of the 3,249 patients under treatment whose records were analyzed for the purpose, 644 or about 25 per cent had one or more lepra reactions during the preceding semester. Of these, only 30 per cent improved; 42 per cent remained stationary; and 31 per cent became worse. The corresponding figures for the rest, 2,605 in number, who did not develop any reaction are: Improved, 45 per cent; stationary, 42 per cent; and worse, 13 per cent. It is apparent, therefore, that reactions appearing during the treatment are not only unnecessary but are even detrimental as a rule to our patients.

OTHER COMPLAINTS AND INCIDENTS

These consist of choking, dizziness, induration, abscess, malaise, weakness, fever, cough, chest pain, chest oppression, headache, and hemoptysis. Most of these are entirely subjective; the success of the treatment rests a great deal on the proper evaluation and interpretation of these symptoms, and this, in turn, depends upon the experience and personal acumen of the treating physician.

Forty-three per cent of patients under routine treatment made one or more of these complaints. Frequent complaints of cough, chest pain, occasional fever, and chilliness, accompanied by loss of weight, generally indicate activation of some tuberculous focus in the lungs. Infrequently, the first clinical manifestation of a tuberculous process is a slight hemoptysis occurring shortly after an injection.

In case of repeated complaints of headache, dizziness, malaise, and chest oppression, involvement of kidneys should be suspected, and if the treatment is discontinued in time, permanent injury is prevented.

The incidence of respiratory tract symptoms is high in the creosoted and the plain ethyl esters groups. The corresponding figures obtained with the Mercado mixture support the general observation of the Staff that although the drug is less irritating to the kidneys than the ethyl esters, its effect on the lungs is also to be feared, particularly when tuberculosis is present.

ADJUVANT TREATMENT

Many workers on leprosy advice the use of general tonics in conjunction with the routine medications. Three preparations, in the form of tablets, are at present being tried out: iron, quinine, and strychnine; iron, arsenic, and strychnine; and creosote, given according to individual indications. This form of medication can not be successfully carried out in Culion where most of the people live in separate houses and there is no central mess. The final report on the use of these tonics will appear later.

Work in connection with the use of X-rays and ultra-violet rays as adjuvants to the regular treatment as carried out in Culion, is still under way; no definite conclusions can yet be drawn.

COMPLICATIONS

During the past semester, 350 patients have been dropped from the treatment clinics on account of complications. The main causes which have indicated the suspension of active medication in these patients were: Tuberculosis, 158 cases (45 per cent); chronic nephritis, 61 cases (18 per cent); recurrent and protracted lepra reaction, 54 cases (15 per cent); leprotic involvement of the eyes, 18 cases (5 per cent); other complications, 59 cases (17 per cent).

SUMMARY

1. Of the total of 2,810 patients receiving anti-leprotic treatment at the Culion Leper Colony during the semester ending March, 1924, 9.2 per cent were clinically and bacteriologically negative; 62.5 per cent were improved; 15.6 per cent remained stationary; and 12.6 per cent became worse.

2. The main preparations used in Culion are: (*a*) Ethyl esters with ½ per cent iodine; (*b*) ethyl esters with 10 per cent creosote;

(*c*) ethyl esters with ½ per cent iodine and 10 per cent creosote; and (*d*) Mercado mixture.

3. Of these drugs, the iodized ethyl esters of chaulmoogra oil continue to give the best results. The value of creosote as an additive to the chaulmoogra ethyl esters remains to be definitely established. Improvement under the Mercado mixture is rather slow but this preparation occupies a definite place in the treatment of leprosy. With the possible exception of the pure chaulmoogra oil, it is the only drug available that can be given with some degree of safety when nephritis is present as a complication. The plain ethyl esters have been discarded, having been found too irritating locally.

4. Twenty-five per cent of patients under routine treatment developed one or more lepra reactions during the semester covered by this report. The results obtained in this group were as a rule not as favorable as those shown in patients who did not have any reaction.

AN APPEAL FOR THE FILIPINIZATION OF MEDICINE

By Professor LUIS GUERRERO and Dr. AGERICO B. M. SISON

Department of Tropical Medicine, University of the Philippines

[Read before the weekly forum of the Philippine General Hospital, November 26, 1924]

Up to this point the gentlemen that have preceded us in addressing this weekly assembly have invariably touched upon the different problems that concern mainly the private medical practitioner in the practical and immediately productive aspect of the profession. Permit us this afternoon to engage your attention for a few minutes in the discussion of certain ideals and principles that every graduate of a medical school should always keep in mind, if he ever wishes to be a real champion of the art and science of preventing diseases, of promoting health, of prolonging life, of alleviating human suffering, and of curing ailments.

It is the consensus of opinion that the function of a good medical school is to produce competent medical practitioners. However, we would like to invite your attention to the fact that this aim can not be the sole purpose of a good medical school, because we all know that a place of real importance and honor in the world can be occupied only by those schools which have contributed, to a certain extent, to the advancement of medical science and have consistently prepared a steady succession of able young people who are ready to preserve and to transmit to the generation to come the knowledge and traditions which serve as the foundation of medical science. So, therefore, let us say that the function of a good medical school, including our own College of Medicine, is not only to produce competent medical practitioners, but also to prepare men and women to become research workers and professional teachers.

The graduates of the College of Medicine of the University of the Philippines, soon after they receive their academic diplomas and certificates of registration in the Medical Board usually go to the provinces and limit themselves to the routine of treating diseases. As a general rule, they do not read new treatises or medical journals, seem to be satisfied with the knowledge they acquired while still an undergraduate student in the College, forget entirely that medicine is a progressive science subject to continuous evolution, and that their University diploma does not mean any thing more than does their matriculation-card which permits them to attend the true university of life, the real college for medical experience where one has to be his own teacher. During the course of their private practice, they do not conduct clinical investigations or laboratory research (except perhaps a few ones who have had the fortune or misfortune to be connected with such Government institutions as the Philippine Health Service, the Culion Leper Colony, the College of Medicine and Surgery, the Bureau of Science. There are many problems in our country which can very well be studied by the practitioners in the provinces who are in a much better position to meet them for their proper solution than are those who practice in Manila. According to that great medical educator, Sir James Mackenzie, the private practitioner in the provinces is the one who can push forward the progress of clinical medicine much faster than anybody else because he comes in intimate contact with the people and can very well observe the earliest manifestations of diseases and follow later on their evolution. Our graduates are distributed all over the Philippine Archipelago, but not even one of them has ever begun any work for the solution of local medical problems, such as the endemic goitre in Peñaranda; the causes of the prevalence of *filariasis* in Albay, Samar, and Leyte; the frequent occurrence of *schistosomiasis* in Leyte, etc. With the exception of a few, our graduates do not attend scientific assemblies, or the annual meetings of medical societies. As soon as they leave the medical school and the Philippine General Hospital, our graduates cut off entirely all the links that connect them either directly or indirectly with their professors or their own institutions. A sad reality, indeed, which should not be tolerated in any country that is coveting its immediate, absolute, and complete political emancipation! Because with the means of communication we have at our disposal in modern times, distance and time can not be barriers to a consistent mutual exchange of ideas and thoughts. And so, while practicing in the remotest barrios of the Philippines, our graduates can very well keep constantly in touch by correspondence with the editor of the *Journal of the Philippine Islands Medical Association* or directly with their former professors, in order to clear up obscure and doubtful cases, to ask for details on recent advances in medicine, or to request bibliographic notes. They should be constantly on the alert and should devote special attention to their own "self-education," which can be easily improved from day to day by applying for membership to medical societies, attending scientific assemblies, and reading new medical books and journals, so that their medical knowledge may run *pari passu* with the new discoveries and follow steadily the progressive advance of modern medicine.

Just as we want to give solution to our political and economic problems, so should we also spare no effort to work out our own medical problems. Medicine is cosmopolitan and recognizes no country because it is a legacy of mankind, but medicine has its own peculiarities that give it its particular local color, according to climate, meteorological conditions, racial idiosyncrasies, and geographical position. This is a platitude that no serious-minded physician will dare challenge.

It is high time for us to develop our own medicine by studying the manifestations of diseases in our country and on our own countrymen. Typhoid-fever, for instance, which is a disease often found all over the world, does not show the same symptoms in the Philippines as those found in temperate countries. There are certain minute details that differentiate its course and development in the Philippines from those in other parts of the world; and it is the study of such minute differences that we would like you and every other single practitioner in these Islands to undertake. *When we advocate for a medicine that is Filipinized, we do not mean to exclude foreign books and journals, or ignore the experiences of foreign authors. This act would be silly and disastrous. We only wish to see the medical science in our country based upon a genuinely Philippine foundation, by the close study of diseases as they manifest themselves in the Philippines and not by the knowledge we gain from the experience of others in foreign countries.*

So, ladies and gentlemen, if we wish to see the art and science of medicine shine in all its glory and advance rapidly in the Philippines, if we wish to place our country side by side with other nations along medical lines, if we wish to see the Filipinos contribute their bit to the progress of science and attain a respectable and lofty place in the medical world, it is necessary that we should do away with the worship of "routine work" and begin original research. To attain this aim, the professors of this institution are in duty bound to give all inducements and to instill the spirit of research into our students in the undergraduate course, as we do not have a graduate school at present. Our graduates can very well conduct scientific investigations in their respective provinces alone, or in colaboration with the professors of the College of Medicine. The practice of medicine is not incompatible with laboratory or clinical research work. In fact, many scientific men have made important discoveries during the course of their private practice of medicine. Thus William Harvey and Edward Jenner were mere humble practicing physicians. Lister was a practicing surgeon. Robert Koch was a mere country doctor when he discovered the bacilli of anthrax and of surgical sepsis. Manson was a doctor in China. Ramon y Cajal was another private practitioner, as were many others who would make this list a real compendium of the whole history of medicine. The private practitioners in the provinces can mount a small laboratory at little cost, and thus help themselves in verifying their diagnoses or in their research work. Remember that Ramon y Cajal made his first discoveries in his own private laboratory and the microscope he first used was paid for on the installment plan! A private clinical laboratory may be set up with 300 or 400 pesos. Many blood and urine examinations from the provinces are done in Manila. The fees that are charged for such examinations should go to the pockets of the physicians in the provinces instead of giving them to those of Manila. Osler, in an address delivered before the Abernethian Society, St. Bartholomew's Hospital, London, stated, among other things, the following: "In every university department, the chief research must be done by the young assistants and special students under the direction of the chief who fertilizes them with ideas. I can testify in an interesting way to the large amount of good work that may be done by the students and young assistants. When I left the Johns Hopkins Hospital, the graduates of the first eight years of the medical school presented me with twelve handsomely bound volume containing just five hundred contributions they had made." (British Medical Journal, January 3, 1914.) Sir Ronald Ross, addressing the students of the Anderson College of Medicine, Glasgow, at the opening of the winter session, 1924, spoke thus: "The management of medical research will lie in the hands of you young people; but you must study the book of the past in order to direct the advances of the future. I hope that most of you will be mere practising doctors; but if so, let every afferent and efferent nerve of your thoughts connect the brain of science with every sense, muscle, and faculty of your practice. The practitioner nowadays can not live apart from science, by trying to evolve wisdom from his own meditations, like a hermit in the desert; you must not only observe, but also think; and not only think, but also read. Your first duty will be the cure or prevention of sickness; but some of you in your leisure may perhaps try to solve problems, may become enthusiasts, may even become wild enthusiasts. I can not imagine a nobler fate. Even perhaps one of you, probably not more, may be destined to become the Newton or Einstein of some hitherto undreamed-of synthesis. I hope so!

"Science has, indeed, measured the stars and the atoms, has knit together the corners of the earth, and has enabled us to fly over oceans and deserts; but her greatest victory remains to be won. Why should we men, heirs of all the ages, continue to suffer from such mean things as diseases? Are you to be defeated any longer by bacilli, rat-fleas, and mosquitoes? It is for you to conquer them; and remember that every gift of science is a gift not to one country or two countries, not only for today or for tomorrow, but also to the whole world and for all time, until—as the poet said—'The future dates forget the past.'" (Journal of Tropical Medicine and Hygiene, January 1, 1924.)

Such is our conception of medical research, and we make the foregoing quotations our own words. We have in our midst many young assistants and able students who may be able to contribute very much to the progress of medicine in the Philippines. We do not need large endowments, splendid laboratories, nor geniuses to do research work. All we need is material to work with, willingness to work, and above all fondness and love for scientific investigations for the sake of science and humanity. We have plenty of material in our country; so, therefore, it behooves us to exert all efforts to develop real passion for research and to contribute something, no matter how insignificant it may be, to the advance of medicine in these Islands.

SANITATION AND SELF-GOVERNMENT

On January 7, 1922, upon my designation as Chief of the Division of Sanitation in the provinces, I had occasion to invite the attention of my fellow-officers, colleagues, and fellow-employees to the fact that the standard of sanitation of a country is an index of its civilization and an important factor in the happiness and prosperity of its people; and that "good sanitary conditions" have been included in the definition of a "stable government."

Conditions now are as true as they were then. It is, therefore, deemed permissible to quote excerpts of unnumbered circular dated January 7, 1922 which the Director of Health then authorized me to sign with his approval, as follows:

"It seems, therefore, unnecessary to point out what we of the Health Service should strive for. Let us not lose sight of the fact that the mutual co-operation of the provincial and municipal authorities and of the public on the one hand, and of the health officials on the other, is essential; and in many cases, experience has shown that this mutual co-operation can be obtained thru the good tact and executive ability of the health official. Of vital importance also to the success of the Service is the enlightening of the masses along the lines of sanitation and hygiene, the introduction of permanent sanitary improvements, and the enforcement of sanitary laws, ordinances, and regulations. Let our motto be 'Forward to the Goal.'

"I bespeak your loyalty to the Service, and I urge your same devotion to duty which characterized you in the past; and in doing this I further urge upon you to endeavor by all means to win greater confidence and more co-operation from the local authorities and the public with whom you have the exceptional opportunity of dealing directly, and than which there is no greater source of gratification as the enchancing of its welfare.

"Let us confidently hope that, thru the health activities to which we are committed and thru this mutual co-operation, we may raise the sanitary level of our own Philippines to that of the most highly sanitary nations of the world. Let us ardently hope, finally, that the health officials and employees will have the greatest satisfaction in a near future that they have contributed their grain of sand to the attainment of the supreme ideal of the Filipino people."

JACOBO FAJARDO
Director of Health

PHILIPPINE HEALTH SERVICE

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COMMENTS ON CURRENT EVENTS

The nationalization of medicine

We desire particularly to invite the attention of the health officials and employees to the following excerpts from an address of Professor Luis Guerrero and Dr. Agerico Sison published elsewhere in this issue:

> When we advocate for a medicine Filipinized, we do not mean to exclude foreign books and journals, or ignore the experiences of foreign authors. This would be silly and disastrous. We only wish to see the medical science in our country based upon a genuinely Philippine foundation, by the close study of diseases as they manifest in the Philippines and not by the knowledge we gain from experiences of others in foreign countries.
>
> So, ladies and gentlemen, if we wish to see the art and science of medicine shine in all its glory and advance rapidly in the Philippines; if we wish to place our country side by side with other nations along medical lines; if we wish to see the Filipinos contribute their bit to the progress of science and attain a respectable and lofty place in the medical world, it is necessary that we should do away with the "routine work" and start some research.

The district health officers, the presidents of sanitary divisions, the chiefs of hospitals, the resident physicians, the sanitary engineers, and other health workers have, we believe, ample opportunities to record personal observations and undertake research work of one form or another, however modest it may be in the beginning, but which in the course of time may assume valuable proportions.

Those persons working in hospitals, especially, have opportunities to make studies in clinical medicine and surgery, while those in the field who are engaged in sanitation can improve their leisure undertaking researches in preventive medicine. Let us hope that in no distant future we can nationalize our medicine and hygiene, base them upon a broad and scientific foundation, and point with noble pride to substantial contributions to the advancement of the medical and allied sciences. S. Y. O.

Honoring our heroes

November 30 and December 30, Bonifacio Day and the Rizal Day, respectively, were commemorated all over the Philippines. Little should we benefit from the teachings of our heroes were we to observe the day dedicated to them, merely in a festive mood—spend it in joy-rides, picnics, and dances. The life of Andres Bonifacio was characterized by action, and well does he deserve the names of "action personified," "mightly atom," and the like. The life of a health officer or employee should eminently be a life of action, a life where procrastination may mean a lesson dearly learned, for it may involve the welfare of patients or the spread of epidemics. When we, therefore, feel inclined to postpone the performance of things, when the drudgery of routine drives us to inactivity, let us hold up before us the image of Bonifacio, to find inspiration from the "mighty atom," and to push to reality our ideas and plans.

Rizal himself was the embodiment of diligence and conscientiousness. Were he alive today to see how his countrymen try to honor him, he would be mortified to observe how a great many of his compatriots really dishonor his day by whiling the time away in doubtful pastimes. For those men who know "what joy in work is," the commemoration of a holiday is not even dedicated to an undeserved rest, but to the study of the life and labors of the hero and to the application of his virtues to our everyday life. S. Y. O.

The recent medical convention

From December 17 to 20, inclusive, the joint meeting of the Philippine Islands Medical Association and the Manila Medical Society was held. The convention was eminently successful, both from the point of view of attendance and that of the papers read. Fifty-four contributions in all were presented, the greatest majority of them being of a very high class. For the first time, topics closely bearing on medicine and hygiene in the Philippines were discussed. The articles were mostly based on the Philippine experience of their authors. The papers show that a rich store of materials is available for our study, and that our physicians are in a position to contribute to the early solution of our local medical and sanitary problems. S. Y. O.

Our Bulletin

Hereafter the roster of the commissioned officers of the Philippine Health Service will be published in the January issue of the bulletin. The statistics for the month of January will appear in the February number, those for March in the February number, and so on. Those for December will be published in the Index number. S. Y. O.

MISCELLANEOUS

ASSIGNMENTS

Acting Chief of the Division of Hospitals, Dr. Sixto Y. Orosa, has been directed to proceed to Lucena, Tayabas, to organize, direct the personnel, and put into operation the Tayabas Provincial Hospital.

Senior Medical Inspector Jose Guidote has been assigned to take charge of the Office of Vital Statistics, Philippine Health Service.

Dr. Eugenio Hernando, chief of the Division of Metropolitan Sanitation, has been assigned as acting chairman, Board of Food and Drug Inspection, besides his other duties.

Senior Surgeon Jose Castrillo has been directed to proceed to Bangued, Abra, for duty as acting district health officer.

Dr. M. V. Arguelles has been designated to temporarily take charge of the Course for Sanitary Inspectors.

A committee on revision of the regulations governing uniforms of officers and employees of the Philippine Health Service has been created, and is composed of Dr. Gabriel Intengan as chairman, and Drs. Felipe Arenas and Hilario Lara as members.

The students, Course for Assistant Sanitary Inspectors, Philippine Health Service, have been directed to work at the various health stations of the City of Manila.

MEDICAL RESERVE OFFICERS

Seven officers of the Philippine Health Service have reported for duty today after having finished the training for the Medical Reserve Corps of the United States Army held at Fort McKinley from November 28 to December 12, 1924.

They are Capt. Regino Padua and First Lieutenants Perez, Pardo, Eubanas, Pasco, Delgado, and Caro.

Captain Padua has been awarded a gold medal for obtaining the highest average in the last written contest among the sixteen medical officers of the Medical Reserve Corps of the United States Army, and Lieutenant Perez has distinguished himself in military command.

DOCTOR RAYMUNDO ARRIVED

Medical Inspector Jose M. Raymundo of the Philippine Health Service has recently arrived after taking a refresher course for one month in the Zamboanga General Hospital. Hospital administration in relation to public health and sanitation was pursued. The discussion of Better Babies Conference and Social Service as out-patient activities of the hospital was also taken up.

Doctor Raymundo will soon leave for Butuan, Agusan, to resume his former duties as supervising surgeon of the Butuan Public Hospital and district health officer of the Province of Agusan.

COMPLAINTS AGAINST SANITARY INSPECTORS

Sanitary inspectors, especially those of the City of Manila, have, in the past, been the object of complaints, either for reported discourtesies to the public or for alleged abuses in other ways, such as exactions, bribes, etc.

These complaints, upon investigation, have not been verified, due to the fact that the delinquent inspectors could not be identified, and in order to partially remedy this defect, all sanitary inspectors in the City of Manila will be provided with new metal corps device bearing their corresponding number and will be placed outside the blouse on the left chest. The public is, therefore, requested that in making complaints against sanitary inspectors they will please secure the number so that they can be identified easily, proper investigation conducted, and the necessary punishment meted out.

BANQUET IN HONOR OF DOCTORS DE JESUS AND FAJARDO

An elaborate banquet was given in honor of the former Director of Health, Dr. Vicente de Jesus and the present Director of Health, Doctor Fajardo, by the Colegio Médico-Farmacéutico and the personnel of the Philippine Health Service at the Colegio Building on December 7, 1924, at 12.15 p. m.

About 150 physicians and pharmacists attended the banquet.

After the dinner, speeches followed. Dr. Gervasio Ocampo, president of the Colegio Médico-Farmacéutico was the toastmaster. Drs. Eugenio Hernando, chief, Division of Metropolitan Sanitation; Jose Fabella, Public Welfare Commissioner; Fernando Calderon, Director of the Philippine General Hospital; Vicente de Jesus, retiring Director of Health, and Jacobo Fajardo, present Director of Health, were the speakers.

BANQUET IN HONOR OF DOCTORS DE JESUS, ROSARIO, AND FAJARDO

The assistant sanitary inspectors of the Philippine Health Service of the City of Manila tendered a well-appointed dinner in honor of Drs. Vicente de Jesus, Salvador del Rosario, and Jacobo Fajardo at the Hotel Mignon on December 23, 1924, at 7.30 p. m.

Due to the bad weather during his inspection trip in Culion which delayed his return, Doctor Fajardo was unable to be present at the banquet. Doctor Del Rosario was also absent.

Assistant sanitary inspector Dionisio Buensuceso was the toastmaster and the speakers were assistant sanitary inspectors Jose Caballero, Doroteo Mendoza, Gelacio Salas, and Benigno Reyes. Doctor De Jesus, the guest of honor present, was the last to speak.

There were about 150 assistant sanitary inspectors who attended. Doctors Hernando, Lopez-Rizal, Villafranca, Bantug, Arenas, De Leon, Llcra, Guidote, Gavino, Joven, Mencias, Corpus, Castañeda, Rodriguez, Serrano, and Messrs. Tianco and Viana were also present.

DOCTOR INTENGAN BACK

Doctor Gabriel Intengan, chief, Division of Provincial Sanitation, has returned today from an inspection in the south in company with the Honorable, the Secretary of Public Instruction.

REPORT OF DOCTOR LARA

Dr. Casimiro B. Lara, chief physician of the Culion Leper Colony, who is a pensionado of the Mayo Foundation now working in that institution at Rochester, Minnesota, reports that an experiment on chaulmoogra derivatives is under way. It has for its purpose the observation of the effects produced by the administration of these drugs in doses given for therapeutic effect in leprosy. Experimental animals are used and the study is chiefly directed to the observation of some of the vital functions, with special reference to the kidneys and liver.

Doctor Lara is also endeavoring to compare the effects of the oil and its ethyl esters. He is using the chaulmoogra derivatives from two firms in New York. He also desires to use those used at the Culion Leper Colony.

Part of Doctor Lara's time is spent in the chemistry laboratory, carrying out biological and chemical tests in connection with his experimental work. He is attending evening lectures given at the clinic of the Foundation, and the class in scientific German. He is taking medicine as his major subject and biochemistry as the chief minor subject.

REPORT OF SANITARY ENGINEER

Sanitary Engineer Mañosa reports that for the month of November, 1924, a total of 71 strong material plans, 92 permits for minor building construction, and 31 for light and mixed-material construction, were approved.

REPORT OF DR. BARTOLOME REYES

Dr. Bartolome Reyes, provincial dentist of Bulacan, reports that for the month of November, a total of 102 persons were treated in the dental clinic. There were 57 extractions, 61 fillings, and 92 treatments. The clinics were held in Malolos, Polo, San Miguel, and Baliuag.

REPORT OF DOCTOR FERNANDEZ

Dr. Jose Fernandez, pensionado of the Philippine Health Service in the United States, reports that during the months of August and September he worked in a private sanitarium in Blythewood, Greenwich, Connecticut, where he was in charge of fifty insane patients.

Doctor Fernandez reports that hydrotherapy is the regular treatment given. He says that the treatment is a great help to the patient especially among the excited and maniac types. Such baths could be installed at San Lazaro Hospital.

Doctor Fernandez is at present working in the Boston Psychopathic Hospital under Dr. C. Macfie Campbell.

PROVINCIAL DENTIST REPORTS

Dr. Eleuterio L. Zolete, provincial dentist of the Province of Tayabas, reports that in November, 1924, a total of 468 persons received dental treatment in the dental clinics, of which 148 were extractions and 119 fillings.

HEALTH LECTURE TO BE BROADCASTED

The Philippine Health Service announces that a health lecture, entitled "Whooping Cough and How to Prevent It," will be broadcasted by radio at Radio Station kzKz owned by the Radio Corporation, Plaza Santa Cruz

Manila, on December 4, 1924, at 8 p. m. as usual. Another, on "Measles and How to Prevent It" will be broadcasted on December 18 at the same place and hour. We are indebted to Mr. Henry Herman who has placed this radio station at the disposal of the Service.

LANTERN SLIDES TO BE EXHIBITED

Medical Inspector Sulpicio Chiyuto, district health officer of Cebu, sent a communication to the Director of Health requesting some lantern slides dealing on health matters. In compliance with this request, 98 slides which convey instruction on various aspects of health matters have recently been sent to him.

Doctor Chiyuto will undertake an intensive educational campaign in the municipalities of Cebu Province.

HEALTHMOBILE EXHIBITED

The healthmobile of the Philippine Health Service was exhibited in the barrio of Loñgos, Malabon, Rizal in connection with the Garden Day there on December 6, 1924, at 9 p. m.

The films on malaria, cholera, typhoid, and the care of newborn babies were exhibited. About 2,000 persons attended.

HEALTHMOBILE TO BE SENT TO LEYTE

Mechanic Teodoro Garcia and the healthmobile operator Eliseo Reyes have been directed to go to Tacloban for the purpose of taking charge of the exhibition of healthmobile in connection with the Carnival to be held there.

REORGANIZATION OF THE CITY OF MANILA INTO THREE SANITARY DISTRICTS

Beginning January 1st, the City of Manila will be reorganized into three sanitary districts.

A separate office for issuing sanitary licenses will be established at the Central Office in Intramuros.

Sanitary permits for peddlers such as water carriers, ice cream peddlers, fruit vendors, etc., will be issued at the corresponding stations where these peddlers reside.

HEALTH OFFICERS' CONVENTION IN NEGROS OCCIDENTAL

The health officers of the Province of Negros Occidental held a convention on December 13, 1924, in connection with the arrival of Vice-Governor Gilmore and of the chief of the Provincial Sanitation, Dr. Gabriel Intengan, of the Philippine Health Service. Due to the stormy weather, a few doctors were unable to attend.

Some interesting public-health matters were taken up in the conference, among which are the establishment of health centers and the length of time that should be devoted to inspections and clinics.

CLEAN-UP WEEK

Clean-up week will begin on December 7th.

Last year the people of Manila coöperated splendidly and the distribution of medals and diplomas was a notable event.

This year honorable mentions will be made of persons who will distinguish themselves during the week.

It is hoped that the enthusiasm of last year will be maintained.

NEGATIVE LEPERS UNDER PAROLE

A total of 13 negative lepers under parole was sent to the San Lazaro Hospital from the Culion Leper Colony on January 11, 1925, nine of whom are women and four are men.

MASSEURS' EXAMINATION

An examination for masseurs will be held at San Lazaro Hospital on January 26, 1924, at 9 a. m.

All necessary applications and papers shall be sent to the Director of Health, Manila, one week before the date of said examination.

EMBALMER'S EXAMINATION

The Philippine Health Service announces that an Embalmer's Examination will be held at the Central Office building, Philippine Health Service, Intramuros, Manila, on December 20, 1924, at 8 a. m. All applications will be sent to the Director of Health, Manila, one week before the examination.

REQUIREMENTS FOR LICENSED MASSEURS

It is further announced that all licensed masseurs may see personally Dr. Felipe Arenas, Meisic Health Station, Manila, for the renewal of their licenses, before December 24, 1924.

YAWS CAMPAIGN

The District Health Officer of Butuan, Agusan, reports that for the month of November, 304 persons were given neosalvarsan injections in the following municipalities:

Prosperida	7	Bunawan	26
Bab-cab	19	Viruela	26
Talacogon	13	Santa Josefa	27
Guadalupe	19	Esperanza	62
Butuan	40		

REPORT OF CEBU PAROLE COMMITTEE

The Cebu Parole Committee in its meeting of December 8, 1924, reports that of 21 lepers examined by the Committee, 15 were found negative bacteriologically during the third examination. The negative lepers have now been granted conditional parole subject to the regulations governing parole of lepers.

REPORT OF ASSORTED VACCINES AND SERA

Medical Inspector Bonifacio Mencias, acting chief, Office of Property of the Philippine Health Service, reports that for the month of November, 1924, the following assorted vaccines and sera were distributed in Manila and in the provinces: antidiphtheritic serum, 200,000 units; antitetanic serum, 160,000 units; antidysenteric serum, 50 ampules; normal horse serum, 25 ampules; gonococcus vaccine, 95 ampules; cholera vaccine, 4,800 c.c.; mixed cholera-typhoid vaccine, 63,960 c.c.; typhoid vaccine, 2,220 c.c.; smallpox fresh vaccine virus, 208,300 units; and dried vaccine virus; 39,100 units. The total cost is ₱4,239.50.

REPORT OF CULION LEPER COLONY

Dr. Jose Avellana Basa, chief of the Culion Leper Colony, reports that for the month of November, there was a total of 5,377 inmates in the Colony: 4 of whom are Americans; 1 European; 13 Chamorros; 16 Chinese; 1 Japanese; and 5,342 Filipinos. A total of 10 lepers were discharged; one admitted and four were born.

There are 2,667 men, 1,366 women, 843 boys, 501 girls; 1,275 single; 2,468 married; 290 widowed and 1,344 children.

VOLUNTARY CONTRIBUTIONS GRANTED

The municipality of Dumanjug, Cebu, has been granted authority to solicit and receive voluntary contributions for the construction of a dispensary building.

The contributions received under this authorization shall be paid into the provincial treasury and taken up in accordance with the instructions of the Bureau of Audits, and shall be subject to the audit of the district auditor.

SANITATION IN BOHOL

During December, 1924, few cases and deaths were registered from dysentery and influenza. This result was attained by the gradual application of established measures. Educational campaign and publicity have proved to be effective with the consequent improvement of individual health.

The clean-up week has been observed likewise by the people, but due to bad weather which prevailed during the date set for cleaning, the work was not fully accomplished, until after the heavy rain was over.

HEALTH REPORT FROM SAN RAMON PENAL COLONY

In general, the San Ramon Penal Colony Farm is sanitary. The water used for drinking is being boiled.

The hospital has a capacity of 20 beds. From January to December, 1924, a total of 536 admissions were registered, and 6 major operations were performed.

HEALTH REPORT OF ILOILO

The municipalities of Arevalo, Oton, Tigbauan, San Joaquin, Guimbal, Leon, Alimodian, San Miguel, Jaro, Pavia, and Santa Barbara were inspected. The sanitary conditions of these places and the entire province are satisfactory.

HEALTH REPORT OF CEBU

During December, 1924, there were a total of 126 lepers in the City of Cebu which were released under parole. Christmas gifts from public-spirited citizens of Cebu were distributed among the lepers. Music has been furnished for the lepers in two different occasions. At the arrival of Vice-Governor Gilmore and chief of the Division of Provincial Sanitation, Gabriel Intengan, on December 13, 1924, various places of sanitary interests were inspected.

HEALTH REPORT OF ZAMBOANGA

During December, 1924, the vaccination against cholera and typhoid was continued especially among school children in Margosatubig, Lanutan, and Maluso. Anti-smallpox vaccination was done also with particular attention to the immunization of the newly-born and school children.

The hookworm campaign was continued in the City of Zamboanga, Dapitan, and Dipolog. The trachoma campaign was also carried out. Bolong, Taluksangay, Mercedes, Cabaluag, and Manicanan, Ayala, Recodo, Talisayan, Sinonoc, Tetuan, Santa Maria, and San Roque were inspected.

The clean-up week was a success in Zamboanga.

The third annual Better Babies Conference of Zamboanga took place from November 30 to December 5, 1924, under the auspices of the Puericulture Center of Zamboanga and the direction of the health service personnel. About 2,000 people attended, and 700 children were examined and about the same number of mothers were given instructions. This activity was extended to all the large barrios of the municipality of Zamboanga.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of December, 1924]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924[1]

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	281,753
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	308,010

BY DISTRICTS

Health districts	Population
No. 1, Intramuros	37,872
No. 2, Meisic	105,501
No. 4, Sampaloc	49,991
No. 5, Tondo	81,665
No. 6, Paco	32,981
Total	308,010

[1] Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, DECEMBER, 1924

Date	Pressure mean[1]	Temperature						
		In shade[2]					Underground 0.50 m.	
		Mean	Absolute maximum	Day	Absolute minimum	Day	8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	758.04	25.4	32.4	4	20.4	8	27.6	27.8
11-20	59.48	24.0	31.8	16	19.0	14	26.9	27.0
21-31	60.40	24.4	31.7	23	17.2	29	27.0	27.4

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	*Per cent*		*Per cent*	
1-10	83.9	89.8	7	73.7	10
11-20	75.5	89.2	20	71.0	18
21-31	79.6	86.4	30	72.5	28

[1] Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above the ground.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, DECEMBER, 1924—Continued

Date	Wind				Atmidometer [2] (open air)		
	Prevailing direction	Velocity					
		Total	Daily total maximum	Day	Total	Daily maximum	Day
		Km.	*Km.*		*mm.*	*mm.*	
1-10	SE	1,693.0	315.0	1	26.9	3.9	8, 10
11-20	N	1,803.0	245.0	19	38.2	5.1	16, 18
21-31	SE	1,603.0	292.0	21	39.7	5.0	22

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	*h. m.*		*mm.*	
1-10	30 40	8 20	4	40.3	5
11-20	23 15	6 10	14	9.9	3
21-31	56 00	8 15	26	23.1	3

[2] These values are taken from instrument mounted in the Observatory Park, 1.5 meters above the ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans	3	7	10	37.59
Filipinos	560	554	1,114	46.58
Spaniards	....	2	2	12.05
Other Europeans	4	1	5	52.32
Chinese	26	27	53	34.97
All others	2	2	4	21.56
Total and average	595	593	1,188	45.44

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. 1, Intramuros	133	111	244	10	9	19	263	81.82
No. 2, Meisic	90	102	192	7	8	15	207	23.12
No. 4, Sampaloc	96	88	184	3	7	10	194	45.72
No. 5, Tondo	176	174	350	11	10	21	371	53.52
No. 6, Paco	64	78	142	5	6	11	153	54.66
Total	559	553	1,112	36	40	76	1,188	45.44

Number of births attended by physicians, living........ 307; stillbirth 17
Number of births attended by midwife, living........ 123; stillbirth 1
Number of births attended by family, living............ 758; stillbirth 29

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	5	....	5	18.89
Filipinos	317	271	588	24.58
Spaniards	3	....	3	18.00
Other Europeans	....	....	....	....
Chinese	20	4	24	15.84
All others	1	2	3	16.17
Total and average	346	277	623	23.83

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	108	91
Divorced	....	....
Widowed	24	51
Single	261	173
Conditions not stated	5	....
Total	398	315
Grand total	713	

Stillbirths	49
Number of deaths with medical attendance	363
Number of deaths without medical attendance	350

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 30 days	53	33	1	....	87
30 days to under 1 year	60	52	12	10	134
1 year to under 2 years	28	17	4	2	51
2 years to 4 years	21	21	2	1	45
5 years to 9 years	11	8	....	1	20
10 years to 14 years	10	6	1	2	19
15 years to 19 years	12	4	3	1	20
20 years to 29 years	34	21	10	9	74
30 years to 39 years	26	26	6	6	64
40 years to 49 years	32	22	5	....	59
50 years to 59 years	19	24	7	1	51
60 years to 69 years	24	6	1	4	35
70 years to 79 years	10	12	....	....	22
80 years to 89 years	2	16	....	....	18
90 years to 99 years	3	9	....	1	13
100 years and over	1	....	....	....	1
Age not stated	....	....	....	....	....
Total	346	277	52	38	713

DEATHS AND DEATH RATES PER 1,000 BY DISTRICTS INCLUDING TRANSIENTS

[Stillbirths not included]

Health districts	Deaths	Annual death rate per 1,000
No. 1, Intramuros	116	36.09
No. 2, Meisic	105	11.73
No. 4, Sampaloc	107	25.22
No. 5, Tondo	301	43.48
No. 6, Paco	84	30.01
Total and average	713	27.27

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			10	6					1				17
4. Malaria			1										1
9. Diphtheria and croup				1									1
10. Influenza			1	1									2
14. Dysentery			3	4									7
17. Leprosy			1										1
18. Erysipelas				1									1
20. Purulent infection and septicæmia			1	1					1				3
22. Anthrax			1										1
23. Rabies	1												1
24. Tetanus			7	2									9
27. Beriberi			1						1				2
27a. Beriberi, infantile			22	23									45
28. Tuberculosis of the lungs	1		68	54					1				124
29. Acute miliary tuberculosis				1									1
30. Tuberculous meningitis			7	4									11
31. Abdominal tuberculosis			4	1					1				6
32. Pott's disease			1										2
34. Tuberculosis of other organs			1	1									1
36. Rickets				1									1
40. Cancer and other malignant tumors of the stomach, liver			2	2									4
41. Cancer and other malignant tumors of the peritonæum, intestines, rectum			1	2									3
42. Cancer and other malignant tumors of the female genital organs				3									3
45. Cancer and other malignant tumors of other organs or of organs not specified			2	3					1				6
47. Acute articular rheumatism			2									1	3
48. Chronic rheumatism and gout				2									2
50. Diabetes			2										2
54. Anæmia, chlorosis			1	1									2

II. Diseases of the nervous system and of the organs of special sense													
60. Encephalitis			1										1
61. Simple meningitis:													
(1) Simple meningitis			7	15									22
(2) Cerebro-spinal meningitis (undefined)			3	1									4
63. Other diseases of the spinal cord				1									1
64. Cerebral hæmorrhage, apoplexy	1		6	5	1				1				14
66. Paralysis without specified cause			1	1									2
68. Other forms of mental alienation			2	2									4
III. Diseases of the circulatory system													
78. Acute endocarditis			1	6									7
79. Organic diseases of the heart			8	2	1				1		1		13
80. Angina pectoris			1										1
82. Embolism and thrombosis				1									1
IV. Diseases of the respiratory system													
89. Acute bronchitis			22	19									41
90. Chronic bronchitis			2	4									6
91. Broncho-pneumonia			22	15	1				1	1			40
92. Pneumonia			7	4								1	12
96. Asthma				1									1
V. Diseases of the digestive system													
102. Ulcer of the stomach			1	1					1				3
104. Diarrhœa and enteritis (under 2 years)			7	3									10
105. Diarrhœa and enteritis (2 years and over)			4	2					1				7
107. Intestinal parasites			1										1
108. Appendicitis and typhlitis				1									1
109. Hernias, intestinal obstructions			4	1									5
113. Cirrhosis of the liver			1										1
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	1												1
VI. Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			9	6					1				16
120. Bright's disease	1		4	7					3				15
131. Cysts and other tumors of the ovary				1									1
132. Salpingitis and other diseases of the female genital organs				1									1
VII. The puerperal state													
134. Accidents of pregnancy				1									1
135. Puerperal hæmorrhage				1									1
137. Puerperal septicæmia				5									5

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
VIII. Diseases of the skin and of the cellular tissue													
142. Gangrene			2										2
XI. Diseases of early infancy													
151. Congenital debility, icterus, and sclerema:													
(1) Premature birth (not stillborn)			7	3									10
(2) Congenital debility			34	23					3	2			62
152. Other diseases peculiar to early infancy:													
(2) Other causes peculiar to early infancy			5	1					1				7
XII. Old age													
154. Senility			8	22									30
XIII. Affections caused by external cause													
167. Burns (conflagration excepted)			1										1
171. Traumatism by cutting or piercing instruments			1										1
172. Traumatism by fall			1										1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			2						1				3
186. Other external violence									1				1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			3	1									4
Total	5		317	271	3				20	4	1	2	623
Grand total	5		588		3				24		3		623

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
I. General diseases													
1. Typhoid fever			3										3
8. Whooping cough				1									1
14. Dysentery			1	2									3
17. Leprosy			1										1
20. Purulent infection and septicæmia			1										1
27a. Beriberi, infantile			4	1									5
28. Tuberculosis of the lungs			9	5									14
30. Tuberculous meningitis			1										1
31. Abdominal tuberculosis				1									1
37. Syphilis	1												1
40. Cancer and other malignant tumors of the stomach, liver				1									1
45. Cancer and other malignant tumors of other organs or of organs not specified				1									1
47. Acute articular rheumatism			1										1
54. Anæmia, chlorosis				1									1
II. Diseases of the nervous system and of the organs of special sense													
61. Simple meningitis:													
(1) Simple meningitis			3	1									4
(2) Cerebro-spinal meningitis (undefined)			1										1
64. Cerebral hæmorrhage, apoplexy				1									1
67. General paralysis of the insane			1										1
68. Other forms of mental alienation			1										1
III. Diseases of the circulatory system													
73. Acute endocarditis									1				1
79. Organic diseases of the heart		1	1										2
85. Hæmorrhage; other diseases of the circulatory system			1										1
IV. Diseases of the respiratory system													
89. Acute bronchitis			4	5									9
90. Chronic bronchitis				1									1
91. Broncho-pneumonia			5	3									8
92. Pneumonia				1									1
93. Pleurisy			1										1
96. Asthma			1										1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

Stillbirths not included

Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
V. Diseases of the digestive system													
102. Ulcer of the stomach							1						1
115. Other diseases of the liver			1										1
VI.—Nonvenereal diseases of the genito-urinary system and annexa													
119. Acute nephritis			1										1
120. Bright's disease			2	1									3
131. Cysts and other tumors of the ovary				1									1
VII. The puerperal state													
136. Other accidents of labor				3									3
138. Puerperal albuminuria and convulsions				3									3
XI. Diseases of early infancy													
151. Congenital debility, icterus and sclerema:													
(2) Congenital debility			1										1
XII. Old age													
154. Senility				1									1
XIII. Affections caused by external causes													
169. Accidental drowing	1												1
175. Traumatism by other crushing (vehicles, railways, landslides, etc.)			1	2									3
182. Homicide by firearms			1										1
XIV. Ill-defined diseases													
189. Cause of death not specified or ill defined			1	1									2
Total	2	1	48	37			1		1				90
Grand total	3		85				1		1				90

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
8. Whooping cough	....	....	....	....	1	1
18. Erysipelas	....	....	....	....	1	1
20. Purulent infection and septicæmia	....	....	....	....	2	2
24. Tetanus	....	....	....	7	....	7
27a. Beriberi, infantile	....	....	....	4	46	50
30. Tuberculous meningitis	....	....	....	....	2	2
36. Rickets	....	....	....	....	1	1
61. Simple meningitis:						
(1) Simple meningitis	....	....	....	....	12	12
(2) Cerebro-spinal meningitis (undefined)	....	....	....	....	1	1
89. Acute bronchitis	....	....	....	1	36	37
90. Chronic bronchitis	....	....	....	....	1	1
91. Broncho-pneumonia	....	....	....	....	14	14
92. Pneumonia	....	....	....	....	2	2
104. Diarrhœa and enteritis	....	....	....	....	6	6
109. Hernia, intestinal obstruction	....	....	....	....	1	1
119. Acute nephritis	....	....	....	....	2	2
142. Gangrene	....	....	....	....	1	1
151. Congenital debility, icterus, and sclerema:						
(1) Premature birth (not stillborn)	7	1	....	1	1	10
(2) Congenital debility	15	7	....	26	15	63
152. Other causes peculiar to early infancy:						
(2) Other causes peculiar to early infancy	5	....	....	1	1	7
Total	27	8	....	40	146	221

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,309
Number of rats caught by spring traps	2,872
Number of cage-wire traps set	744
Number of rats caught by cage-wire traps	5
Number and kind of baits (coconuts)	22,053
Number of poison portions placed	14,813
Number of rats found poisoned	330
Number of rats killed by clubs and other weapons	816
Number of rats found dead from other causes	543
Total number of rats otherwise caught, found dead, or killed	4,566
Total number of rats sent to the laboratory for examination	4,566
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF DECEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	7	....	8	3	7	3	5	3	....	1	11	3	38	13
Female	1	....	1	....	5	1	8	1	5	3	3	....	23	5
Home:														
Male	....	....	....	....	1	1	....	....	....	....	....	....	1	1
Female	....	....	1	....	....	....	1	1	....	....	....	....	2	1
Total:														
Male	7	....	8	3	8	4	5	3	....	1	11	3	39	14
Female	1	....	2	....	5	1	9	2	5	3	3	....	25	6
Grand total	8	....	10	3	13	5	14	5	5	4	14	3	64	20

REMARKS:

Total cases reported within the month in the City of Manila		75
Resident cases	56	
Non-resident cases	19	
Foreign cases	0	
Total deaths reported within the month in the City of Manila		20
Deaths among resident cases	17	
Deaths among non-resident cases	3	
Deaths among foreign cases	0	
Total cases confirmed as typhoid fever		63
By autopsy	1	
By blood culture	5	
By Widal reaction	2	
By urine examination	0	
By feces examination	0	
By clinical symptoms	55	
Confirmed cases as paratyphoid fever		1
Total cases not confirmed		11

Typhoid carriers—2.

DYSENTERIES REPORTED DURING THE MONTH OF DECEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male			4	1	1				1	1	3	1	9	3
Female	1	1	1	1		1	1		1		3	2	7	5
Home:														
Male					2	1							2	1
Female									1	1			1	1
Total:														
Male			4	1	3	1			1	1	3	1	11	4
Female	1	1	1	1		1	1		2	1	3	2	8	6
Grand total	1	1	5	2	3	2	1		3	2	6	3	19	10

REMARKS:

Total cases reported within the month in the City of Manila		20
Resident cases	14	
Non-resident cases	6	
Total deaths reported within the month in the City of Manila		10
Deaths among resident cases	7	
Deaths among non-resident cases	3	
Cases not confirmed as dysentery		1

Dysentery carrier—None.

CHOLERA REPORTED DURING THE MONTH OF DECEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS:

Total cases reported within the month in the City of Manila		0
Resident cases	0	
Non-resident cases	0	
Foreign cases	0	
Resident cases not confirmed as cholera	0	
Non-resident cases not confirmed as cholera	0	
Total deaths reported within the month in the City of Manila		0
Deaths among resident cases confirmed as cholera	0	
Deaths among non-resident cases confirmed as cholera	0	

Cholera carriers—10.

DIPHTHERIA REPORTED DURING THE MONTH OF DECEMBER, 1924, CITY OF MANILA

CONFIRMED CASES

Isolation	Health districts													
	No. 1		No. 2		No. 4		No. 5		No. 6		Transient		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Hospital:														
Male	0	0	0	0	0	0	1	0	0	0	1	0	2	0
Female	1	1	0	0	0	0	0	0	0	0	1	0	2	1
Home:														
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total:														
Male	0	0	0	0	0	0	1	0	0	0	1	0	2	0
Female	1	1	0	0	0	0	0	0	0	0	1	0	2	1
Grand total	1	1	0	0	0	0	1	0	0	0	2	0	4	1

REMARKS:

Total cases reported within the month in the City of Manila		
Resident cases		10
Non-resident cases	6	
Resident cases not confirmed as diphtheria	4	
Non-resident cases not confirmed as diphtheria	4	
Total deaths reported within the month in the City of Manila	2	
Deaths among resident cases confirmed as diphtheria		1
Deaths among resident cases not confirmed as diphtheria	1	
Deaths among non-resident cases confirmed as diphtheria	0	
	0	

Diphtheria carrier—None.

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1924

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	7	3	1	
Varioloid				
Varicella	3	6		
Smallpox	1			
Measles	2	1		
Whooping cough				
Influenza	15	7	1	1
Bubonic plague				
Beriberi, adult	2		2	
Beriberi, infantile	22	23	22	23
Pulmonary tuberculosis	117	96	70	55
Tuberculosis of all forms	14	7	13	7
Encephalitis lethargica		1		

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	4	1		
Varioloid				
Varicella				
Smallpox				
Measles				
Whooping cough		1		1
Influenza	3	1		
Bubonic plague				
Beriberi, adult				
Beriberi, infantile	4	1	4	1
Pulmonary tuberculosis	14	16	9	5
Tuberculosis of all forms	1	1	1	1
Encephalitis lethargica				

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE MONTH OF DECEMBER, 1924

Sera and vaccines	On hand September 1, 1924	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-dipteric serum (units)	700,000		700,000	240,000	460,000
Anti-dysenteric serum (ampoules)	75		75	20	55
Anti-tetanic serum (units)	400,000	67,000	467,000	267,000	200,000
Cholera vaccine (c.c.)	5,000	94,490	99,490	7,200	92,290
Dried vaccine virus (c.c.)	2,700	9,500	12,200	12,100	100
Fresh vaccine virus (units)	92,100	180,000	272,100	248,100	24,000
Gonococcus vaccine (ampoules)		270	270	270	
Mixed cholera-typhoid vaccine (c.c.)	8,880	136,420	145,300	43,260	102,040
Normal horse serum (ampoules)					
Typhoid vaccine (c.c.)	2,760	25,380	28,140	7,260	20,880

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1924

Health districts	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
No. 1, Intramuros	1,180	150	996	34
No. 2, Meisic	3,978	135	3,753	90
No. 4, Sampaloc	4,797	207	4,565	25
No. 5, Tondo	2,047	221	1,801	25
No. 6, Paco	174	82	74	18
Total	12,176	795	11,189	192

SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1924—Continued

Health districts	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1, Intramuros	107	12	10	3			117	15
No. 2, Meisic	128	1	5	2	246	390	379	393
No. 4, Sampaloc	231	5	24	15	303	879	558	899
No. 5, Tondo	255	7	2	2	309	823	566	832
No. 6, Paco	87	11	5	7			92	18
Total	808	36	46	29	858	2,092	1,712	2,157

Vaccine Virus:

Received	19,900
Used	15,650
Remained	4,250

CONSOLIDATED CHOLERA VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1924

(See consolidated table of MIXED VACCINATIONS in the City of Manila)

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1924

Health districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros						5
No. 2, Meisic						
No. 4, Sampaloc					6	
No. 5, Tondo					3	
No. 6, Paco					5	
Division of communicable diseases					734	3,537
Total					748	3,542

Health districts	Number of injections made in—					
	Females					
	First injections		Second injections		Third injections	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros						1
No. 2, Meisic						
No. 4, Sampaloc					2	
No. 5, Tondo					1	
No. 6, Paco					2	
Division of communicable diseases					508	1,515
Total					513	1,516

NOTE.—V, means persons never been vaccinated; R, revaccinations.

For first and second injections, see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED TYPHOID VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1924

Health districts	Total number injected					
	First		Second		Third	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros						6
No. 2, Meisic						
No. 4, Sampaloc					8	
No. 5, Tondo					4	
No. 6, Paco					7	
Division of communicable diseases					1,242	5,052
Total					1,261	5,058

NOTE.—V, means persons never been vaccinated; R; revaccinations.

For first and second injections, see table of Mixed (TYPHOID AND CHOLERA) Vaccinations.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS IN THE CITY OF MANILA FOR THE MONTH OF DECEMBER, 1924

Health districts	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections [1]	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros				4		
No. 2, Meisic						
No. 4, Sampaloc	8		5			
No. 5, Tondo	2		1			
No. 6, Paco	8	4	7			
Division of communicable diseases	1,472	3,263	1,368	3,178		
Total	1,490	3,267	1,381	3,182		

Health districts	Number of injections made in—					
	Females					
	First injections		Second injections		Third injections [1]	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros				2		
No. 2, Meisic						
No. 4, Sampaloc	2		2			
No. 5, Tondo	14		3			
No. 6, Paco	9	1	2			
Division of communicable diseases	1,061	1,464	836	1,719		
Total	1,086	1,465	843	1,721		

Health districts	Total number injected					
	First		Second		Third [1]	
	V.	R.	V.	R.	V.	R.
No. 1, Intramuros				6		
No. 2, Meisic						
No. 4, Sampaloc	10		7			
No. 5, Tondo	16		4			
No. 6, Paco	17	5	9			
Division of communicable diseases	2,533	4,727	2,204	4,897		
Total	2,576	4,732	2,224	4,903		

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[1] Typhoid vaccine has been used in the third injections.

NOTE.—V, means persons never been vaccinated; R, revaccinations.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abra	11,511	1,977	6,318	3,216
Agusan	6,028	1,466	2,087	2,475
Albay	91,478	16,102	46,929	28,447
Antique	18,384	8,783	4,811	4,790
Bataan	9,804	1,171	5,105	3,528
Batanes	3,180	406	1,212	1,563
Batangas	85,898	14,484	49,705	21,709
Bohol	156,187	27,904	77,304	50,979
Bukidnon	4,394	620	2,083	1,691
Bulacan	30,568	9,374	11,065	10,129
Camarines Norte	6,317	2,712	1,885	1,720
Camarines Sur	36,039	7,402	16,307	12,330
Capiz	33,561	13,151	9,333	11,077
Cagayan	32,115	9,972	10,507	11,636
Catanduanes	10,458	3,849	1,657	4,952
Cavite	31,592	8,795	8,295	14,502
Cebu	92,389	31,496	21,729	39,164
Cotabato	15,003	4,676	3,858	6,469
Culion Leper Colony	503	49	402	52
Davao	5,804	2,486	1,615	1,703
Ilocos Norte	72,329	12,727	37,484	22,118
Ilocos Sur	35,604	5,996	17,435	12,173
Iloilo	71,721	27,471	23,903	20,347
Isabela	12,413	3,588	4,132	4,693
Laguna	36,109	8,143	13,445	14,521
Lanao	8,188	1,093	5,199	1,896
La Union	64,013	10,920	37,598	15,495
Leyte	53,993	16,871	18,979	18,143
Marinduque	9,660	2,005	4,366	3,289
Masbate	10,874	3,601	3,454	3,819
Mindoro	6,719	1,683	2,817	2,219
Misamis	21,211	6,000	7,044	8,167
Mountain Province	27,145	7,971	11,406	7,768
Nueva Ecija	28,312	7,512	8,947	11,853
Nueva Vizcaya	9,260	1,281	4,449	3,530
Occidental Negros	51,285	24,673	12,809	13,803
Oriental Negros	35,070	6,921	14,829	13,320
Palawan	5,567	1,862	2,474	1,231
Pampanga	131,382	21,118	104,115	6,149
Pangasinan	82,763	26,832	17,337	39,094
Rizal	40,060	8,734	20,372	10,954
Romblon	10,228	2,780	2,738	4,710
Samar	112,130	22,533	69,014	20,583
Sorsogon	17,761	5,847	6,168	5,746
Sulu	12,698	5,790	3,145	3,763
Surigao	7,984	3,212	2,577	2,195
Tarlac	23,501	4,199	13,166	6,136
Tayabas	39,192	11,675	15,202	12,315
Zambales	8,496	1,713	4,316	2,467
Zamboanga	29,846	10,827	14,128	4,891
Total	1,756,727	441,952	785,255	529,520

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[1] Incomplete, reports from other provinces not yet received.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	702	184	1,756	1,041	2,784	4,209	5,242	5,434
Agusan	163	118	310	312	478	635	951	1,060
Albay	5,575	1,919	8,612	4,390	26,127	15,539	40,314	21,848
Antique	2,023	428	4,669	1,490	3,908	2,494	10,600	4,407
Bataan	791	211	1,858	1,326	2,822	2,662	5,471	4,199
Batanes	278	78	407	185	1,255	632	1,940	895
Batangas	4,852	1,060	8,194	1,971	18,538	13,628	31,584	16,659
Bohol	4,938	852	17,194	4,376	57,556	34,065	79,688	39,293
Bukidnon	27	18	183	265	592	1,101	802	1,384
Bulacan	3,831	509	6,420	1,963	6,671	4,161	16,922	6,633
Camarines Norte	700	150	1,454	473	1,980	1,040	4,134	1,663
Camarines Sur	2,674	1,084	5,952	3,018	11,146	7,114	19,772	11,216
Capiz	2,523	573	5,858	2,018	9,929	6,569	18,310	9,160
Cagayan	3,857	587	7,474	1,768	9,758	5,148	21,089	7,503
Catanduanes	1,731	463	1,940	846	1,306	1,038	4,977	2,347
Cavite	4,229	585	6,426	1,454	12,820	5,661	23,475	7,700
Cebu	9,375	5,587	14,444	5,479	12,112	10,999	35,931	22,065
Cotabato	186	245	791	1,141	1,869	3,484	2,846	4,870
Culion Leper Colony	12	2	18	11	181	102	211	115
Davao	279	132	593	406	2,089	1,771	2,961	2,309
Ilocos Norte	4,121	782	8,907	2,445	21,583	23,041	34,611	26,269
Ilocos Sur	1,719	234	4,998	1,660	11,259	9,096	17,976	10,990
Iloilo	8,282	1,247	15,926	3,132	19,144	10,867	43,352	15,246
Isabela	804	284	1,736	1,615	3,045	3,360	5,085	5,259
Laguna	2,279	615	4,728	1,821	9,337	13,369	16,344	15,805
Lanao	299	45	1,013	215	1,882	1,272	3,194	1,532
La Union	2,654	537	7,308	2,935	14,695	12,772	24,657	16,244
Leyte	2,872	1,402	8,661	3,517	7,572	5,296	19,105	10,215
Marinduque	586	258	1,123	336	3,164	1,673	4,873	2,267
Masbate	331	150	1,206	510	2,340	1,962	3,877	2,622
Mindoro	297	107	973	341	2,241	1,605	3,511	2,053
Misamis	695	446	1,703	1,231	5,007	3,555	7,405	5,232
Mountain Province	1,204	261	4,147	1,858	6,427	4,296	11,778	6,415
Nueva Ecija	5,014	904	3,823	2,081	6,079	6,357	14,916	9,342
Nueva Vizcaya	702	119	1,950	388	4,176	1,481	6,828	1,988
Occidental Negros	8,901	2,144	11,682	4,638	7,884	3,847	28,467	10,628
Oriental Negros	2,673	841	6,611	2,639	10,749	8,033	20,033	11,518
Palawan	198	29	690	226	2,518	613	3,406	868
Pampanga	5,843	733	11,411	3,033	37,572	41,388	54,826	45,154
Pangasinan	13,144	2,408	19,868	6,208	17,519	13,198	50,531	21,814
Rizal	4,151	1,063	5,258	2,915	8,545	9,527	17,954	13,505
Romblon	532	216	1,335	890	2,402	2,188	4,269	3,294
Samar	2,526	1,021	12,324	4,652	35,147	16,815	49,997	22,488
Sorsogon	1,827	799	2,916	1,563	4,789	3,481	9,532	5,843
Sulu	503	148	2,125	941	4,798	2,774	7,426	3,863
Surigao	427	178	1,089	642	1,780	1,764	3,296	2,584
Tarlac	2,468	580	2,811	2,080	5,188	7,950	10,467	10,610
Tayabas	3,093	844	6,858	2,059	13,941	7,028	23,892	9,931
Zambales	821	359	864	602	1,190	2,386	2,875	3,847
Zamboanga	878	678	1,919	1,585	4,473	7,620	7,270	9,883
Total	128,090	34,207	250,516	92,691	460,367	350,666	838,973	477,564

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[1] Incomplete, reports from other provinces not yet received.

CONSOLIDATED CHOLERA VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	10,198	7,832	552	416	......	......
Antique	70	60	30	40	......	......
Batangas	21,217	14,874	307	281	......	......
Bulacan	4,127	6,079	......	......	......	......
Cagayan	259	278	151	174	......	......
Camarines Sur	178	36	......	......	......	......
Catanduanes	462	507	406	440	......	......
Cebu	1,726	1,689	611	293	......	......
Iloilo	216	184	109	102	......	......
Isabela	9	......	......	......	......	......
Laguna	1,180	941	483	355	......	......
Leyte	......	......	29	33	......	......
Mindoro	13	8	......	......	......	......
Pampanga	409	448	237	349	......	......
Pangasinan	2,729	4,111	1,109	2,385	......	......
Rizal	2,373	1,331	524	52	......	......
Sorsogon	43	31	......	......	......	......
Total	45,209	38,404	4,548	4,920	......	......

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay	9,106	6,623	581	200	......	......	33,759	1,749	......
Antique	25	30	40	20	......	......	185	130	......
Batangas	21,701	13,212	303	209	......	......	71,004	1,100	......
Bulacan	3,975	4,734	......	......	......	......	18,915	......	......
Cagayan	182	233	107	166	......	......	947	598	......
Camarines Sur	63	29	16	19	......	......	306	85	......
Catanduanes	93	193	78	173	......	......	1,255	1,097	......
Cebu	1,539	1,356	523	306	......	......	6,310	1,788	......
Iloilo	95	119	68	71	......	......	614	850	......
Isabela	10	2	......	......	......	......	21	......	......
Laguna	992	783	456	280	......	......	3,896	1,574	......
Leyte	......	......	......	......	......	......	......	62	......
Mindoro	9	6	......	......	......	......	36	......	......
Pampanga	468	321	269	216	......	......	1,646	1,071	......
Pangasinan	2,718	3,723	1,154	2,103	......	......	13,281	6,751	......
Rizal	1,840	872	268	50	......	......	6,416	894	......
Sorsogon	29	17	......	......	......	......	120	......	......
Total	42,845	32,253	3,863	3,813	......	......	158,711	17,144	......

[1] Incomplete, report from other provinces not yet received.

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED TYPHOID VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	12	4	6	5	20	64
Albay	92	41	46	21	26	5
Batangas	11	39	....	3	....	....
Bulacan	1,725	947	1,353	748	1,070	810
Camarines Sur	1,274	817	550	271	303	542
Catanduanes	85	4	83	4	1	....
Cebu	43	41	....	....	....	....
Cotabato	33	....	26	....	....	....
Davao	10	....	15	....	....	....
Ilocos Sur	235	145	285	33	3	....
Iloilo	130	63	129	61	81	31
Leyte	....	....	....	....	2	1
Laguna	2,695	1,326	1,347	725	801	188
Mountain Province	576	184	117	31	94	10
Misamis	37	5	....	....	....	....
Nueva Ecija	1,114	700	822	485	465	225
Pampanga	1,294	1,381	840	921	332	519
Pangasinan	693	510	262	217	226	1,046
Rizal	649	249	366	119	454	127
Romblon	101	247	7	9	1	....
Tarlac	....	....	....	....	8	....
Total	10,809	6,703	6,254	3,653	3,887	3,568

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albra	12	1	11	9	18	45	29	31	147
A bay	55	62	17	36	5	14	250	120	50
Batangas	22	21	4	3	....	....	93	10	....
Bulacan	1,829	977	1,495	778	1,200	745	5,478	4,374	3,825
Camarines Sur	1,041	557	462	267	175	293	3,689	1,550	1,313
Catanduanes	111	5	110	5	....	....	205	202	1
Cebu	23	28	....	....	....	....	135	....	....
Cotabato	19	....	9	....	....	....	52	35	....
Davao	....	....	....	....	....	....	10	15	....
Ilocos Sur	176	113	117	49	3	....	669	484	6
Iloilo	96	60	86	56	53	28	349	332	193
Leyte	....	....	....	....	12	....	....	....	15
Laguna	3,028	1,717	1,842	978	1,214	496	8,766	4,892	2,699
Mountain Province	169	15	79	17	70	11	944	244	185
Misamis	20	7	....	....	....	....	69	....	....
Nueva Ecija	495	676	352	531	172	195	2,985	2,190	1,057
Pampanga	1,303	1,162	960	841	309	397	5,140	3,562	1,557
Pangasinan	697	455	296	210	252	109	2,355	985	1,633
Rizal	623	178	330	103	460	123	1,699	918	1,164
Romblon	44	184	24	26	1	....	576	66	2
Tarlac	....	....	....	....	14	1	....	....	23
Total	9,763	6,218	6,194	3,909	3,958	2,457	33,493	20,010	13,870

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[1] Incomplete, report from other provinces not yet received.

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924 [1]

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	175	323	263	314	....	....
Albay	243	271	118	118	....	....
Antique	1,480	1,506	619	912	....	....
Bataan	485	95	308	49	....	....
Batanes	352	419	....	....	....	....
Batangas	4,206	3,012	1,777	1,337	....	....
Bohol	561	1	837	13	....	....
Bulacan	1,213	1,710	954	1,169	....	....
Cagayan	2,083	1,115	937	432	....	....
Camarines Norte	1,016	160	626	....	123	....
Camarines Sur	1,419	1,081	323	407	....	....
Capiz	2,161	1,129	618	399	....	....
Cavite	5,467	8,500	4,265	7,996	....	....
Cebu	4,013	2,489	1,210	160	....	....
Cotabato	128	5	....	....	....	....
Davao	14	33	....	....	....	....
Ilocos Norte	4,035	3,430	1,726	1,543	....	....
Ilocos Sur	2,031	705	2,002	381	423	16
Iloilo	1,034	540	769	882	....	....
Isabela	172	22	116	18	....	....
Laguna	2,873	2,505	1,179	716	....	....
Lanao	401	231	211	164	....	....
La Union	2,991	1,228	1,707	1,191	....	....
Leyte	51	2	29	....	....	....
Marinduque	1,060	919	924	1,204	....	....
Masbate	428	355	284	296	....	....
Mindoro	161	260	49	10	....	....
Misamis	1,733	1,705	347	167	....	....
Mountain Province	736	1,109	223	162	....	....
Nueva Ecija	1,332	987	748	973	59	114
Nueva Vizcaya	280	192	219	192	....	....
Occidental Negros	1,925	769	937	326	....	....
Oriental Negros	1,402	2,484	443	661	....	....
Palawan	70	....	....	....	....	....
Pampanga	5,333	7,225	3,983	5,807	67	190
Pangasinan	5,953	4,449	4,149	3,019	....	....
Rizal	22,608	16,606	4,772	2,653	....	....
Romblon	209	48	72	28	....	....
Samar	221	348	74	24	....	....
Sorsogon	482	768	106	155	....	....
Sulu	103	8	....	....	....	....
Surigao	248	165	164	107	....	....
Tarlac	1,809	1,875	934	1,160	....	....
Tayabas	3,182	1,065	1,132	606	....	....
Zambales	1,404	1,489	1,302	1,215	....	....
Zamboanga	1,789	1,448	....	....	....	....
Total	91,072	74,786	41,351	36,466	672	320

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[1] Incomplete, reports from other provinces not yet received.

NOTE.—A. means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED MIXED (TYPHOID AND CHOLERA) VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1924[1]—Continued

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra	87	253	147	251	....	....	838	975	....
Albay	213	166	130	93	....	....	893	459	....
Antique	1,594	1,354	576	690	....	....	5,934	2,797	....
Bataan	376	137	293	74	....	....	1,093	719	....
Batanes	338	309	....	....	....	....	1,418	....	....
Batangas	4,474	2,687	1,741	1,116	....	....	14,379	5,971	....
Bohol	235	5	495	39	....	....	802	1,384	....
Bulacan	1,041	1,113	543	827	....	....	5,077	3,493	....
Cagayan	1,557	1,063	876	451	....	....	5,818	2,696	....
Camarines Norte	755	83	331	17	124	....	2,014	874	247
Camarines Sur	992	914	285	374	....	....	4,406	1,389	....
Capiz	1,569	760	434	110	....	....	5,619	1,561	....
Cavite	4,977	6,804	3,905	6,647	....	....	25,748	22,813	....
Cebu	3,257	1,980	982	234	....	....	11,739	2,586	....
Cotabato	31	6	....	....	....	....	170	....	....
Davao	8	20	....	....	....	....	75	....	....
Ilocos Norte	3,676	3,180	1,577	1,702	....	....	14,321	6,548	....
Ilocos Sur	1,285	860	1,412	366	248	6	4,881	4,161	693
Iloilo	587	489	505	436	....	....	2,650	2,092	....
Isabela	144	17	120	12	....	....	365	266	....
Laguna	2,448	2,418	1,170	714	....	....	10,244	3,779	....
Lanao	199	135	150	21	....	....	966	546	....
La Union	2,072	1,047	1,110	769	....	....	7,338	4,777	....
Leyte	29	2	29	4	....	....	84	62	....
Marinduque	974	973	635	1,155	....	....	3,926	3,918	....
Masbate	263	392	193	256	....	....	1,438	1,029	....
Mindoro	81	210	6	2	....	....	712	67	....
Misamis	1,422	1,535	285	188	....	....	6,395	987	....
Mountain Province	357	454	65	104	....	....	2,656	554	....
Nueva Ecija	589	465	479	826	32	117	3,373	3,026	322
Nueva Vizcaya	188	112	153	111	....	....	772	675	....
Occidental Negros	1,509	797	879	361	....	....	5,000	2,508	....
Oriental Negros	1,026	1,672	451	560	....	....	6,584	2,115	....
Palawan	....	....	....	....	....	....	70	....	....
Pampanga	5,278	5,261	3,689	4,327	94	179	23,097	17,806	530
Pangasinan	5,637	4,568	3,792	3,060	....	....	20,607	14,020	....
Rizal	20,009	13,956	3,275	1,875	....	....	73,179	12,575	....
Romblon	156	54	46	18	....	....	467	164	....
Samar	118	361	32	61	....	....	1,048	191	....
Sorsogon	261	549	73	96	....	....	2,060	430	....
Sulu	26	9	....	....	....	....	146	....	....
Surigao	52	31	210	115	....	....	496	596	....
Tarlac	1,028	1,563	460	896	....	....	6,275	3,450	....
Tayabas	2,345	781	778	267	....	....	7,373	2,783	....
Zambales	980	1,124	920	953	....	....	4,997	4,390	....
Zamboanga	1,078	1,326	....	....	....	....	5,641	....	....
Total	75,321	61,995	33,232	30,178	498	302	303,174	141,227	1,792

[1] Incomplete, reports from other provinces not yet received.

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF DECEMBER, 1924

Provinces and towns	Cases	Deaths
Masbate:		
Masbate	[1]1	[1]1
Total	[1]1	[1]1

[1] Varioloid

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF DECEMBER, 1924

(No case and no death reported during the month)

OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA, DURING THE MONTH OF DECEMBER, 1924

	Health districts					
	No. 1	No. 2	No. 4	No. 5	No. 6	
	Intramuros	Meisic	Sampaloc	Tondo	Paco	Total
Orders pending December 1, 1924:						
Minor	63	42	26	43	30	204
Sewer	11	52	7	13	3	86
Vacating	......	8	4	3	16	31
Filling	7	11	13	6	5	42
Total	81	113	50	65	54	363
Orders issued during the month:						
Minor	10	6	13	1	2	32
Sewer	......	......	......	1	......	1
Vacating	10	......	1	......	......	11
Filling	......	......	......	......	......	......
Total	20	6	14	2	2	44
Grand total	101	119	64	67	56	407
Orders completed during the month:						
Minor	12	19	5	5	2	43
Sewer	......	4	2	......	......	6
Vacating	......	......	2	......	......	2
Filling	......	......	......	2	......	2
Total	12	23	9	7	2	53
Orders cancelled during the month:						
Minor	1	......	......	......	......	1
Sewer	......	......	......	......	......	......
Vacating	......	......	......	......	......	......
Filling	......	......	......	1	......	1
Total	1	......	......	1	......	2
Orders pending December 31, 1924:						
Minor	60	29	34	39	30	192
Sewer	11	48	5	14	3	81
Vacating	10	8	3	3	16	40
Filling	7	11	13	3	5	39
Total	88	96	55	59	54	352
Strong material plans approved:						
New buildings including additions and alterations	17	15	18	29	12	91
Permits for minor building construction:						
Approved	10	15	11	25	7	68
Disapproved	5	6	3	16	1	31
New buildings completed	7	9	12	9	3	40
Light and mixed material construction:						
Permits approved	5	......	14	21	10	50
Permits disapproved	3	......	3	7	4	17
Total number of building projects passed upon	47	45	61	107	37	297
Prosecutions:						
Convictions	......	......	......	1	......	1
Dismissals	......	1	1	......	......	2
Amount of fines	......	......	......	₱10	......	₱10
Plumbing permits issued	26	53	38	37	16	170
Plumbing projects completed	21	59	36	27	10	153
Premises connected to the sanitary sewer to November 30, 1924	1,776	2,949	1,133	627	447	6,932
Premises connected during the month	2	9	2	2	2	17
Total	1,778	2,958	1,135	629	449	6,949

Intramuros includes Ermita and Malate.
Meisic includes Santa Cruz, Binondo, and San Nicolas.
Sampaloc includes Quiapo, San Miguel, and Santa Mesa.
Paco includes Pandacan and Santa Ana.

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